

## TRANSMITTAL



TO: RCRA Corrective Action and Permits  
Air and Waste Management Division  
U.S. EPA Region 7  
11201 Renner Boulevard  
Lenexa KS 66219  
(913-551-7122)

FROM: Crystal Reuss

ATTN: Ms. Ruby Crysler

DATE: February 25, 2019

RE: Deliverables for 2040 West River Drive Davenport

**We Are Sending You:**

Quantity	Description
2	Hard copies of the 2018 Annual Remedy Performance Report for 2040 West River Drive, Davenport Iowa, that was submitted to Ms. Ruby Crysler at U.S. EPA Region 7 – DVDs of entire report within report binders.

Note: On behalf of Paul Rohde the listed material is enclosed for your use

If the material received is not as listed, please notify us at once.

***Crystal Reuss***

CH2M HILL  
135 S. 84th Street  
Suite 400  
Milwaukee WI 53214-1456  
Te. 414-847-0264  
email [crystal.reuss@jacobs.com](mailto:crystal.reuss@jacobs.com)

**Copy To:**

Anna Kunkel/Philips North America  
Michael Potts/Terraphase  
John P. Cleary/Harcros Chemicals  
Paul Rohde/CH2M HILL

RCRA



589222



# 2040 West River Drive Davenport, Iowa

*Prepared on behalf of*

T. H. Agriculture & Nutrition, L.L.C.  
Elementis Chemicals, Inc. f/k/a  
Harcros Chemicals, Inc., a Delaware Corporation  
U.S. EPA Docket No. RCRA-07-2012-0013

February 2019



CH2M HILL Engineers, Inc.  
135 South 84<sup>th</sup> Street  
Suite 400  
Milwaukee, WI 53214



# Executive Summary

This Annual Remedy Performance Report (ARPR) for 2040 West River Drive in Davenport, Iowa, has been prepared by CH2M HILL Engineers, Inc. (CH2M) on behalf of T. H. Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcos Chemicals, Inc. (Harcros), in accordance with the *Operation, Monitoring, and Maintenance Plan* (OMMP) approved by the U.S. Environmental Protection Agency (EPA) in September 2014 (CH2M, 2014). The project property is currently owned by Harcos, a Kansas Corporation. For purposes of discussion within this document, “onsite” refers to an area coincident with the 2040 West River Drive property, “offsite” refers to investigated areas outside the 2040 West River Drive property, and the term “site” includes both onsite and offsite areas.

As presented in the approved OMMP, the Remedial Action Objectives (RAOs) for groundwater specific to this project are the EPA Maximum Contaminant Levels (MCLs), or EPA Regional Screening Levels for constituents of concern that do not have established MCLs. The corrective measures undertaken for the project, as identified in the *Final Decision Document/Response to Comments* (EPA, 2010), are the following:

- In situ chemical oxidation (ISCO) for onsite groundwater;
- Monitored natural attenuation (MNA) for offsite groundwater;
- Enhanced in situ bioremediation (EISB) for offsite groundwater (EISB is recommended as a contingent remedy for offsite groundwater and is not currently being implemented); and
- Institutional controls (ICs) for the onsite property.

This ARPR presents the groundwater data collected during 2018. An assessment of each corrective measure’s effectiveness is provided by evaluating recent and historical site data. Additionally, recommendations for next year’s groundwater monitoring program (to monitor ISCO and MNA effectiveness) are presented. The data collected in 2018 are consistent with the conceptual site model characteristics that were established in the OMMP.

The first (five-year) *Corrective Measures Performance Evaluation Report* (CMPER) for this project site, submitted to EPA on May 26, 2017, concluded that the required, ongoing remedies are effective, but additional proactive activities were proposed for onsite implementation (CH2M 2017a). Additional soil sampling was conducted in 2018 to support the proactive soil excavation and oxidant application planned for early 2019 (CH2M, 2018a). These activities will be completed in accordance with the EPA approved Work Plan *Soil Excavation Work Plan* (CH2M, 2018a).

The CMPER also proposed a targeted pilot study for the northern site area, involving injection of an oxidant(s) alternative to sodium permanganate, to reduce 1,1,1-trichloroethane (1,1,1-TCA) groundwater concentrations (and concentrations of other volatile organic compounds [VOCs]) in the northern portion of the site. The alternate oxidant injection is planned for 2019; although not required per the Administrative Order on Consent (AOC) a work plan will be submitted to EPA describing this proactive activity.

## ES.1 2018 Operation, Monitoring, and Maintenance Activities

The operation, monitoring, and maintenance activities that were completed at the site during the 2018 calendar year are the following:



- Annual well network inspection activities in 2018 at onsite and offsite wells that were sampled for analysis of *Long-term Groundwater Monitoring Plan* (LTMP) parameters (ISCO and MNA programs) and/or at wells accessed only for collection of water levels, per the EPA-approved OMMP. The LTMP was submitted and approved with the OMMP (CH2M, 2014).
- Annual groundwater sampling between June and September 2018 at onsite and offsite wells per the EPA-approved LTMP (CH2M, 2014). Although sampling was completed in accordance with the LTMP in June 2018, VOC and/or dissolved gas samples were re-collected at several wells in July and September 2018 due laboratory to hold time issues with the initially-collected samples.
- Annual IC inspection was performed onsite on June 15, 2018.
- Sampling of one monitoring well (BW-16) in December 2018. Due to its reported increasing trichloroethene (TCE) concentration per the LTMP, BW-16 was sampled in December 2018, but was only analyzed for chloride due to the presence of permanganate.

## ES.2 Remedy Effectiveness and Supporting Data/ Recommendations

Onsite soil treatment, onsite groundwater treatment, and natural attenuation processes have resulted in decreases in the lateral extent of total VOCs that exceed RAOs in groundwater (Figure ES-1). Annual mass estimates were performed using historical datasets beginning when the LTMP well network was installed in June 2005, which also generally corresponds to when corrective measures were initiated at the site. Trend analysis was conducted for LTMP wells using data collected from the original site investigation beginning in 1999 and subsequent data collection/sampling events through 2018.

### ES.2.1 In Situ Chemical Oxidation

Onsite well data indicate the permanganate is being effectively delivered as evidenced by the persistence of permanganate in onsite groundwater for at least 12 months between the December 2017 injection and December 2018 observations. Additional evidence of the ISCO injection effectiveness includes the following:

- The planar area of highest total site-related VOC concentrations (greater than 10,000 and 100,000 micrograms per liter [ $\mu\text{g/L}$ ]) is reduced in size in the 13 years between 2005 and 2018 (Figure ES-1).
- Concentration trends for total site-related VOCs in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at onsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis.
- Concentration trends for the individual chlorinated VOC (CVOC) parent compounds (PCE, TCE, 1,1,1-TCA, and methylene chloride) in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at onsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis with the exception of one onsite well (BW-16). Active treatment of groundwater near BW-16 is evidenced by the observation of permanganate at this well in June 2018 and December 2018.
- Concentration trends for individual CVOC daughter products of cis-1,2-DCE and vinyl chloride in onsite unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis, with the exception of three onsite locations (BW-23-50', BW-27, and BW-37) where increases in concentrations are accompanied by numerous indications of ongoing biodegradation.



- The onsite, total site-related VOC mass is decreasing, as evidenced by a decreasing trend observed between 2005 and 2018 (13 years); the mass values of individual CVOC parent compounds (PCE, TCE, 1,1,1-TCA, and methylene chloride), CVOC daughter products (cis-1,2-DCE, 1,1-dichloroethene [1,1-DCE], vinyl chloride, 1,1-dichloroethane [1,1-DCA], and 1,2-dichloroethane [1,2-DCA]), and aromatic compounds (toluene, ethylbenzene, and xylenes) have also decreased over the same time period.
- Elevated oxidation reduction potential readings at and downgradient from ISCO injection areas indicate oxidizing conditions due to the presence of permanganate in groundwater.
- Elevated chloride concentrations (2 to 10 times greater than background) in onsite wells indicate significant oxidation of CVOCs.

ISCO injections have reduced VOC mass and concentrations in groundwater. It is recommended that the next full-scale injection event be completed in 2019, consistent with the *ISCO Injection Plan* (CH2M, 2014) to continue to reduce onsite VOCs in groundwater. As previously recommended in the 2017 ARPR (CH2M, 2018b), due to the higher injection rates at ISCO Target Treatment Area 8, it is recommended that future injections, including during the 2019 field season, be completed into ISCO Target Treatment Area 8 instead of ISCO Target Treatment Area 6. Following the alternate oxidant injection in 2019, a recommendation to EPA may be made to change the oxidant used in future injections.

## ES.2.2 Monitored Natural Attenuation

Multiple lines of evidence/MNA processes continue to effectively reduce offsite groundwater VOC concentrations in each of the monitored zones (shallow, intermediate, and deep bedrock, as well as the unconsolidated zone) as evidenced by the following:

- The lateral extent of total VOC detections in 2018 is reduced as compared with the lateral extent of total VOC detections in 2005 (Figure ES-1).
- Concentration trends for total site-related VOCs in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at onsite and offsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis.
- Concentration trends for individual CVOC parent compound (PCE, TCE, 1,1,1-TCA, and methylene chloride) in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at offsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis.
- Concentration trends for individual CVOC daughter products of cis-1,2-DCE and vinyl chloride in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis, with the exception of one offsite location (BW-14) where increases in concentrations are accompanied by numerous indications of ongoing reductive dechlorination.
- The onsite + offsite, total site-related VOC mass is decreasing as evidenced by a decreasing trend observed between 2005 and 2018 (13 years) ; the mass values of individual CVOC parent compounds (PCE, TCE, 1,1,1-TCA, and methylene chloride), CVOC daughter products (cis-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1-DCA, and 1,2-DCA), and aromatic compounds (toluene, ethylbenzene, and xylenes) have also decreased over the same time period.
- An increase in the total VOC mass contributed by CVOC daughter products during the 13-year period (more than 75 percent of the total mass contributed by CVOC daughter products in 2018 compared with 54 percent in 2005).



- Detection of biodegradation daughter products offsite including the predominance of CVOC daughter products versus parent compounds, the detection of the nontoxic end products ethene and ethane, and elevated chloride concentrations (2 to 10 times greater than background).
- Reducing conditions in wells offsite/downgradient from the site that are conducive for ongoing biodegradation of both CVOC parent compounds and daughter products as evidenced by field measurements, lack of nitrate, low sulfate, and/or the presence of methane.
- Ethene plus ethane molarity versus total molarity (total molarity is the sum of PCE, TCE, cis-1,2-DCE, vinyl chloride, ethene, and ethane) increasing with further distance downgradient from the site, reflecting a “more advanced” MNA process at the more distant locations.
- Conditions at perimeter well nest at BW-25/BW-26 indicating strong evidence of MNA processes including reducing conditions, CVOC daughter product concentrations comprising over 99 percent of the total CVOC concentrations, elevated chloride concentrations (2 to 10 times background concentrations), and the detection of ethene, ethane, and methane in each of the nest’s bedrock zones (shallow, intermediate, and deep).
- Strong evidence of ongoing anaerobic biodegradation of CVOCs in shallow bedrock according to EPA screening protocol procedures (EPA, 1998).

### ES.2.3 Institutional Controls

The 2018 site inspection performed at the 2040 West River Drive property (onsite), per the *Institutional Controls Plan* (ICP; submitted and approved with the OMMP [CH2M, 2014]), did not identify activities inconsistent with ICs/land use restrictions. The visual inspection noted no changes to land use, no new construction, no evidence of excavation, no signs of grading, and no activities inconsistent with the required ICs. The inspection noted that the onsite soil was disturbed in relation to recent soil sampling/drilling activities. Drilling waste was noted as properly managed in accordance with the *Waste Handling Plan* (Appendix G of the OMMP).

There are no recommended changes to the ICP. An Environmental Covenant (EC), recorded in Scott County, Iowa, on March 28, 2016, which documents the required ICs and deed restrictions for the property, will be used to prevent groundwater use and potential exposure. Additional site documents were not noted to have been recorded at the County in regard to property ownership or land use zoning that may affect ICs.

## ES.3 2019 Site Activities

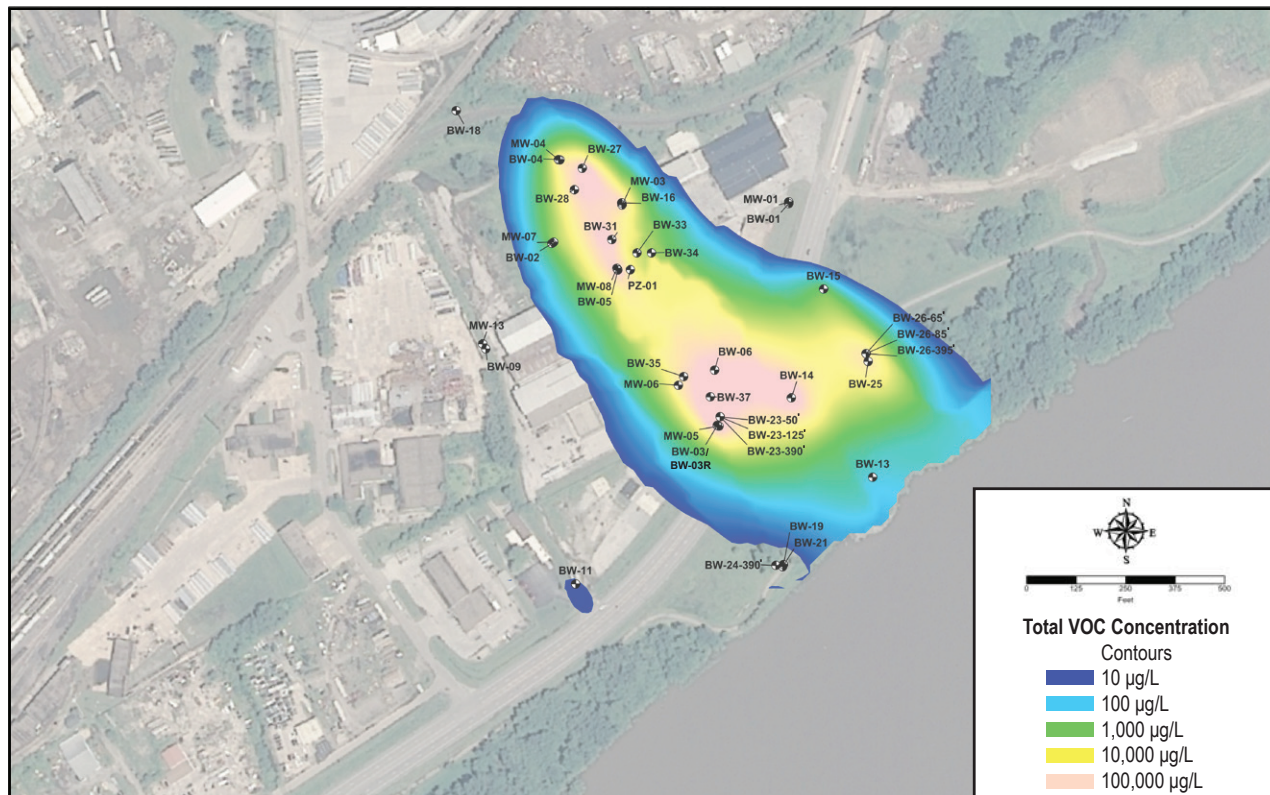
The following work will be performed in 2019:

- Remediate two hot spot areas identified in the *Soil Excavation Work Plan* (CH2M, 2018a) to further enhance the effectiveness of the onsite groundwater remedy. Soil from both hot spot areas will be excavated and disposed of offsite per work plan recommendations. An oxidant will also be applied at the bottom of the northern excavation area prior to backfilling the excavation with clean fill material (CH2M, 2018a). Excavation activities will be documented in a separate technical memorandum.
- Plan for and complete a targeted pilot study using an alternate oxidant(s) to reduce 1,1,1-TCA groundwater concentrations (and concentrations of other VOCs) in the northern portion of the site. (This study is planned for 2019.) This targeted pilot study will include the installation of an additional injection well(s) located near BW-27.

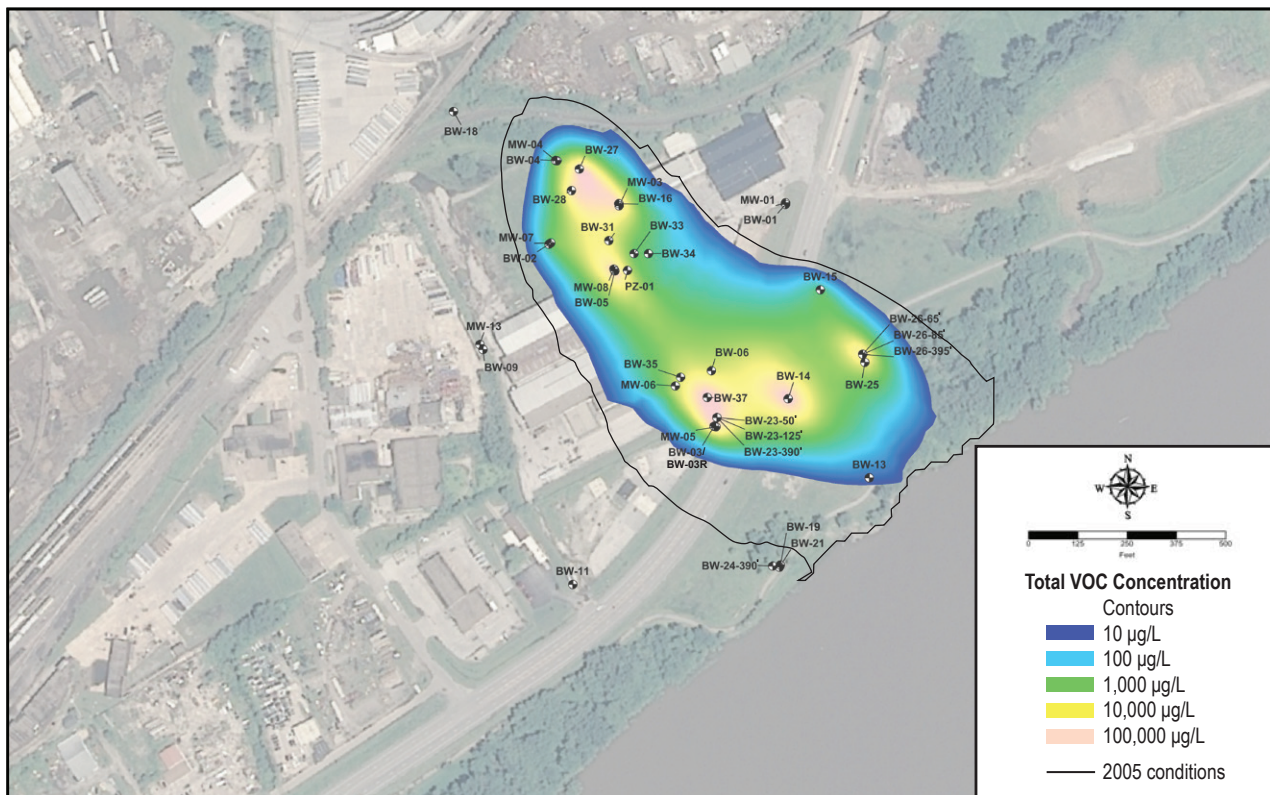


- An ISCO injection event will be completed in 2019, as indicated in the ISCO Injection Plan. As previously recommended in the 2017 ARPR (CH2M, 2018b), future injections, including those accomplished during the 2019 field season, be completed into ISCO Target Treatment Area 8 instead of ISCO Target Treatment Area 6. Following the alternate oxidant injection in 2019, a recommendation to EPA may be made to change the oxidant used in future injections.
- Repair monitoring wells BW-02, BW-04, BW-09, and MW-07; abandon and replace MW-13 and BW-27; replace ISCO-IW02; and re-develop BW-31 and BW-05.
- Continue implementation of the long-term groundwater monitoring program for both onsite and offsite wells as identified in the EPA-approved LTMP. LTMP wells will be sampled annually in June except for BW-16, which will also be sampled in December if permanganate is not present during the June sampling event.
- Complete an inspection noting the conditions of the monitoring well network in June 2019, concurrent with the annual groundwater monitoring event.
- Perform the annual IC inspection in June 2019, concurrent with the annual groundwater monitoring event, per the OMMP and the ICP.
- Complete an administrative review of the EC documents (property deeds and/or land zoning-related) in June 2019 during the IC inspection.
- Develop the 2019 ARPR using 2019 annual groundwater analytical data, submitting to EPA on or before March 1, 2020.





2005 (Pre-soil treatment, pre-full scale ISCO injection conditions)



2018 (Current Conditions)

Note:  
Isosurfaces are based on the 3-D isovolume that was generated based on kriging of each data set using the GSLIB (Deutsch and Journal, 1992) geostatistical algorithms as implemented within the Stanford Geostatistical Modeling Software version 2.1 (SGEMS) (Remy, 2009).

Figure ES-1  
Total VOCs in Groundwater –  
2005 Versus 2018  
2040 West River Drive  
Davenport, Iowa



# Contents

Section	Page
<b>Executive Summary .....</b>	<b>ES-1</b>
ES.1 2018 Operation, Monitoring, and Maintenance Activities .....	1
ES.2 Remedy Effectiveness and Supporting Data/ Recommendations .....	2
ES.2.1 In Situ Chemical Oxidation .....	2
ES.2.2 Monitored Natural Attenuation .....	3
ES.2.3 Institutional Controls .....	4
ES.3 2019 Site Activities .....	4
<b>Acronyms and Abbreviations .....</b>	<b>vii</b>
<b>1 Introduction .....</b>	<b>1-1</b>
<b>2 2018 Operation, Monitoring, and Maintenance Activities .....</b>	<b>2-1</b>
2.1 ISCO Injection .....	2-1
2.2 Monitoring Well Inspections and Sampling .....	2-1
2.2.1 Annual LTMP Monitoring Well Inspections and Monitoring .....	2-2
2.2.2 July and September Groundwater Monitoring .....	2-3
2.2.3 December Groundwater Monitoring .....	2-3
2.3 Institutional Controls Inspection .....	2-3
2.4 Waste Disposal .....	2-4
<b>3 2018 Data Results and Evaluation .....</b>	<b>3-1</b>
3.1 Physical (Hydraulic) Groundwater Data .....	3-1
3.1.1 Percent Occlusion Evaluation .....	3-1
3.1.2 Physical (Hydraulic) Groundwater Results .....	3-1
3.2 Chemical (Field Parameter and Laboratory Analytical) Groundwater Monitoring Data .....	3-2
3.2.1 VOC Overview .....	3-3
3.2.2 VOC Concentration Distribution .....	3-3
3.2.3 VOC Concentration Trend Analysis .....	3-7
3.2.4 Mass Estimates—Trends and Composition .....	3-8
3.2.5 MNA Performance Monitoring Data .....	3-12
3.2.6 ISCO Operational Data .....	3-14
<b>4 Remedy Effectiveness .....</b>	<b>4-1</b>
4.1 ISCO Effectiveness .....	4-1
4.2 MNA Remedy Effectiveness .....	4-1
4.3 Institutional Controls Inspection .....	4-3
<b>5 Summary and Recommendations .....</b>	<b>5-1</b>
5.1 Conceptual Site Model Updates .....	5-1
5.2 Monitoring Well Network Conditions .....	5-1
5.3 Institutional Controls .....	5-1
5.4 ISCO Injection Program .....	5-1
5.5 Onsite Monitoring Well Sampling/Analysis .....	5-1
5.6 Offsite Monitoring Well Sampling/Analysis .....	5-2
5.7 Work to Be Performed in 2019 .....	5-2
<b>6 References .....</b>	<b>6-1</b>



Section	Page
<b>Appendices</b>	
A	Field Documentation
B	Hydraulic Data
C	Laboratory Reports (Included on CD-ROM)
D	Data Quality Evaluation
E	Groundwater Data Analysis Methods
F	Mann-Kendall Trend Plots and Statistical Analysis of Trend Plots
G	Evaluation Summary Tables (for wells with increasing trends for CVOC daughter products)
<b>Tables</b>	
1-1	Operation, Monitoring, and Maintenance of Corrective Measures
2-1	Monitoring Well Construction Data and 2018 Groundwater Elevations and Percent Occlusion Calculations
2-2	2018 IDW Waste Streams and Disposal Summary
3-1	Groundwater Field Parameter Measurements—2018
3-2	Groundwater Analytical Results—2018
3-3	Summary Statistics for Volatile Organic Compounds—2018 Groundwater Monitoring Data
3-4	Mann-Kendall Trend Analysis for Total Volatile Organic Compounds—2018 Planar Areas
3-5	Total VOC Concentration Trends at Individual Wells Using Mann-Kendall Trend Analysis —2018
3-6	Evaluation of Current and Future Biodegradation for Wells with Increasing CVOC Daughter Product Trends in 2018
3-7	Individual VOC Compound Mass Estimate (kg)—2018 LTMP Monitoring Wells (Onsite and Offsite Wells)
3-8	Individual VOC Compound Mass Estimate (kg)—2018 Onsite Monitoring Wells
3-9	Screening for Anaerobic Biodegradation Processes and Interpretation of Screening Results in the Shallow Bedrock Zone—2018
3-10	Permanganate Observation Summary for Onsite LTMP Monitoring Wells—2018
<b>Figures</b>	
ES-1	Total VOCs in Groundwater—2005 Versus 2018
1-1	Regional Project Site Features
1-2	Soil Investigation Areas and Proposed Soil Excavation Areas
2-1	ISCO Target Treatment Areas
2-2	Site Setting and Well Locations
3-1	Unconsolidated Zone—June 2018 Potentiometric Surface
3-2	Shallow Bedrock Zone—June 2018 Potentiometric Surface
3-3	Total VOCs in Groundwater—2005 Versus 2018
3-4	Total CVOCs in Groundwater—2005 Versus 2018
3-5	Extent of Monitoring Wells with Tetrachloroethene, Trichloroethene, cis-1,2-Dichloroethene, and Vinyl Chloride RAO Exceedances in the Shallow Bedrock Zone—2018
3-6	Extent of Monitoring Wells with 1,1,1-Trichloroethane and Associated Daughter Products—RAO Exceedances in the Shallow Bedrock Zone—2018
3-7	Ratio of CVOC Parent Compound Concentrations to Total CVOC (Daughter + Parent) Concentrations—2018
3-8	Total Aromatics in Groundwater—2005 Versus 2018
3-9	Extent of Monitoring Wells with Benzene, Toluene, Ethylbenzene, and Xylenes RAO Exceedances in the Shallow Bedrock Zone—2018



Section	Page
3-10	Percent Molarity Contribution of Individual Compounds at Offsite Well Locations with Detected Concentrations of One or More VOCs above RAOs—2018



# Acronyms and Abbreviations

AOC	Administrative Order on Consent
ARPR	Annual Remedy Performance Report
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CH2M	CH2M HILL Engineers, Inc.
cis-1,2-DCE	cis-1,2-dichloroethene
CMI	corrective measures implementation
CMPER	Corrective Measures Performance Evaluation Report
COC	constituent of concern
CSM	conceptual site model
CVOC	chlorinated volatile organic compound
1,1-DCA	1,1-dichloroethane
1,2-DCA	1,2-dichloroethane
1,1-DCE	1,1-dichloroethene
DO	dissolved oxygen
EC	Environmental Covenant
EISB	enhanced in situ bioremediation
Elementis	Elementis Chemicals, Inc.
EPA	U.S. Environmental Protection Agency
°F	degree Fahrenheit
f/k/a	formerly known as
ft <sup>2</sup>	square foot
Harcros	Harcros Chemicals, Inc.
IC	institutional control
ICP	Institutional Controls Plan
ISCO	in situ chemical oxidation
ITRC	Interstate Technology Regulatory Council
LTMP	Long-term Groundwater Monitoring Plan
kg	kilogram
µg/L	microgram per liter
MCL	Maximum Contaminant Level
mg/kg	milligram per kilogram
mg/L	milligram per liter



## ACRONYMS AND ABBREVIATIONS

MIP	membrane interface probe
MNA	monitored natural attenuation
mV	millivolt
NFG	National Functional Guidelines
Offsite	Study/remediation area situated outside the property boundaries of 2040 West River Drive
OMMP	Operation, Monitoring, and Maintenance Plan
Onsite	Within the property boundaries of 2040 West River Drive
ORP	oxidation reduction potential
PCE	tetrachloroethene
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAS	Remedial Alternatives Study
RCRA	Resource Conservation and Recovery Act
ROI	radius of influence
RSL	Regional Screening Level
Site	An area consisting of both onsite and offsite portions of the investigated region
SOW	scope of work
TCE	trichloroethene
THAN	T. H. Agriculture & Nutrition, L.L.C.
1,1,1-TCA	1,1,1-trichloroethane
trans-1,2-DCE	trans-1,2-dichloroethene
VOC	volatile organic compound
WHP	Waste Handling Plan



# Introduction

This Annual Remedy Performance Report (ARPR) for 2040 West River Drive in Davenport, Iowa, has been prepared by CH2M HILL Engineers, Inc. (CH2M) on behalf of T. H. Agriculture & Nutrition, L.L.C. (THAN); Elementis Chemicals, Inc. (Elementis) f/k/a Harcros Chemicals, Inc. (Harcros), a Delaware Corporation; and Harcros Chemicals, Inc. (a Kansas Corporation). The ARPR has been prepared in accordance with the *Operation, Monitoring, and Maintenance Plan, 2040 West River Drive, Davenport, Iowa* (OMMP) approved by the U.S. Environmental Protection Agency (EPA) in September 2014 (CH2M, 2014). This ARPR was developed in accordance with the EPA-approved OMMP, and as outlined in the Corrective Measures Implementation (CMI) Scope of Work (SOW). The CMI SOW is part of the Administrative Order on Consent (AOC) made effective on May 29, 2012. Supporting information in the form of tables, figures, and appendices are presented at the end of this report.

The regional site features are shown on Figure 1-1. The property is currently owned by Harcros, a Kansas Corporation. For purposes of discussion within this document, “onsite” refers to an area coincident with the 2040 West River Drive property, “offsite” refers to the investigated areas outside of the 2040 West River Drive property, and “site” includes both the onsite and offsite areas.

Remedial alternatives recommended for implementation at the site are presented in the *Remedial Alternatives Study Report, 2040 West River Drive, Davenport, Iowa* (the Remedial Alternatives Study [RAS] Report; CH2M, 2004) and the *Addendum 1, Remedial Alternatives Study Report, 2040 West River Drive, Davenport, Iowa* (the RAS Report Addendum; CH2M, 2005) to address the site-related constituents of concern (COCs). The RAS Report and the RAS Report Addendum were approved by EPA on September 12, 2005. The recommended remedy for onsite soil included soil excavation and offsite disposal for nonhazardous soil, and onsite ex situ low-temperature thermal desorption for hazardous soil. Soil remediation activities were completed in 2003, 2005, and 2006 (CH2M, 2006) to treat “hot spot” concentrations in soil to below the preliminary risk reduction goal established in the RAS Report for soil (100 milligrams per kilogram [mg/kg] of total volatile organic compounds [VOCs]).

The recommended groundwater remedial alternatives in the RAS Report and the RAS Report Addendum include onsite in situ chemical oxidation (ISCO) and offsite monitored natural attenuation (MNA). The EPA-approved OMMP was developed to guide implementation of the recommended groundwater remedies and the operation, monitoring, and maintenance of the selected corrective measures (CH2M, 2014). The OMMP contains several sub-plans describing implementation of the corrective measures: a *Quality Assurance Project Plan* (QAPP), an *ISCO Injection Plan*, a *Long-term Groundwater Monitoring Plan* (LTMP), an *Enhanced In Situ Bioremediation* (EISB) *Groundwater Remediation Contingency Implementation Plan*, an *Institutional Controls Plan* (ICP), and a *Waste Handling Plan* (WHP).

The project’s ongoing corrective measures, as identified in EPA’s *Final Decision Document/Response to Comments* (EPA, 2010) and as detailed in the RAS Report and the RAS Report Addendum include the following:

- ISCO for onsite groundwater;
- MNA for offsite groundwater;
- EISB for offsite groundwater (EISB is recommended as a contingent remedy for offsite groundwater and is not currently being implemented); and
- Institutional controls (ICs) for the onsite property.



A summary of the objectives for each of these corrective measures, along with a summary of the ongoing operation and maintenance activities, data evaluation, and reporting requirements as outlined in the OMMP, are shown in Table 1-1. As presented in the OMMP, the Remedial Action Objectives (RAOs) for groundwater specific to this project are the EPA Maximum Contaminant Levels (MCLs), or EPA Regional Screening Levels (RSLs) for COCs that do not have established MCLs.

The first (five-year) *Corrective Measures Performance Evaluation Report* (CMPER) for this project site, submitted to EPA on May 26, 2017, concluded that the required, ongoing remedies are effective, but additional proactive activities were proposed for onsite implementation (CH2M, 2017a). As recommended, additional ISCO injection wells were installed in a new treatment area (CH2M, 2017b) and a membrane interface probe (MIP) investigation was completed in the northern portion of the site in 2017 (CH2M, 2017c).

Additional soil investigation and treatment of two soil areas (hot spots) in the northern portion of the property were recommended in the resultant *MIP Evaluation Report* to enhance the ongoing groundwater remedy; two additional rounds of soil sampling were conducted in April and July 2018. A *Soil Excavation Work Plan* (CH2M, 2018a) documented the 2018 investigation activities and recommended hot spot treatment. Soil excavation is proposed for both hot spot areas along with application of oxidant into the bottom of the northern excavation area prior to excavation backfill (Figure 1-2). The *Soil Excavation Work Plan* was approved by EPA in December 2018, and excavation activities are anticipated to be completed in early 2019.

The CMPER also proposed a targeted pilot study for the northern site area, involving injection of an oxidant(s) alternative to sodium permanganate, to reduce 1,1,1-trichloroethane (1,1,1-TCA) groundwater concentrations (and concentrations of other VOCs) in the northern portion of the site.. The alternate oxidant injection is planned for 2019; although not required per the AOC a work plan will be submitted to EPA describing this proactive activity.

As a condition of the approval, EPA requested that onsite monitoring well BW-27 be abandoned prior to initiating excavation activities (EPA, 2018). Excavation activities are anticipated to be completed in early 2019 and will be documented in a separate technical memorandum.

This ARPR uses site information and data collected from early site investigations beginning in 1999 and subsequent data collection/sampling events conducted through 2018. Each year's data are evaluated against the overall conceptual site model (CSM) that was established using data from 1999 to the present, as most recently documented in the OMMP (CH2M, 2014). If a given year's data indicate site conditions are different from the established CSM, the change or difference is reported in the ARPR. Physical CSM details that are directly relevant to the discussion of groundwater monitoring results are presented in this ARPR and include hydrogeologic characteristics of the subsurface as summarized below:

- Approximately 3 to 11 feet of fine-grained unconsolidated soil (clay and silt) overlie limestone bedrock across the site, becoming thicker (25 to 52 feet) and somewhat coarser-grained near the Mississippi River (due to the presence of river alluvium). Although groundwater samples can be collected when groundwater is seasonally present from wells screened in the unconsolidated zone, the unit is frequently dry near the site, so there is likely little to no horizontal groundwater movement/transport within this zone.
- Limestone bedrock extends to approximately 400 feet in depth and lies above the Maquoketa Shale (a regional confining unit averaging 80 feet thick). The limestone from the top of bedrock surface to approximately 50 feet below ground surface (bgs) is more fractured and weathered and has more solution cavities than deeper portions (50 to 400 feet bgs). A local bedrock topographic high is situated in the northern portion of the site with the bedrock surface sloping downward from this high in eastern, southern, and western directions.



- Groundwater movement beneath the site in the uppermost, or “shallow,” portion of the limestone bedrock that is more fractured and weathered is toward the east, west, and south in a radial pattern outward from the highest bedrock elevation near the northern onsite boundary.
- The hydrogeology of the site is influenced by the proximity of the Mississippi River, which is a major discharge zone for shallow groundwater systems. The vertical gradients calculated onsite and near the site between the shallow bedrock zone and intermediate bedrock zone, near the river, are generally in the upward direction.

A network of monitoring wells is established in the LTMP, referred to as the LTMP well network, and consists of the set of wells established across the site to monitor ISCO effectiveness and/or MNA effectiveness in the unconsolidated, shallow bedrock (bedrock surface to approximately 50 feet bgs), intermediate bedrock (approximately 50 to 250 feet bgs), and deep bedrock (approximately 250 to 400 feet bgs) groundwater zones.



# 2018 Operation, Monitoring, and Maintenance Activities

Operation, monitoring, and maintenance activities that were completed at the site during 2018 are described in the sections that follow and include the following:

- Onsite and offsite annual groundwater sampling for evaluation of ISCO and MNA effectiveness— June 11 through 14, 2018, July 12, and September 12 and 13, 2018. Although sampling was completed in accordance with the LTMP in June 2018, VOC and/or dissolved gas samples were re-collected at several wells in July and September 2018 due to laboratory hold time issues with the initially collected samples (see Section 3.2);
- Well network inspection— June 11 through 14, 2018 and September 13, 2018;
- IC inspection—June 15, 2018;
- Semiannual groundwater monitoring (per 2017 recommendations [CH2M, 2018a])—December 5, 2018;
- Disposal of the generated waste in accordance with the WHP.

## 2.1 ISCO Injection

Pilot-scale onsite groundwater treatment of the site-related COCs using ISCO/permanganate injections in the shallow bedrock zone began in 2004, with implementation of full-scale injections beginning in October 2007. Full scale injections were implemented in the years of 2007, 2010, 2011, 2012, and 2013 in accordance with the RAS Report (CH2M, 2004). Three additional injections were proposed to be completed every other year (2015, 2017, and 2019), as described in the EPA-approved *ISCO Injection Plan* (CH2M, 2014). Injections were completed per the approved plan in 2015 and 2017, and the next ISCO injection event per the plan is scheduled for 2019. It should be noted that the updated financial assurance table that was provided to EPA along with the CMPER (CH2M, 2017a) plans for three additional ISCO injection events in 2021, 2023, and 2025. The ISCO target treatment areas are shown on Figure 2-1.

As previously recommended in the 2017 ARPR (CH2M, 2018b), due to the higher injection rates at ISCO Target Treatment Area 8, it is recommended that future injections, including those accomplished during the 2019 field season, be completed into ISCO Target Treatment Area 8 instead of ISCO Target Treatment Area 6.

## 2.2 Monitoring Well Inspections and Sampling

Detailed discussions of the monitoring wells included in the LTMP monitoring network (Figure 2-2), monitoring parameters, monitoring schedule and sampling frequency, and analytical methods are presented in the EPA-approved LTMP and the QAPP (Appendices A and E of the OMMP, respectively [CH2M, 2014]).

Annual groundwater monitoring well inspections and sampling were performed between June and September 2018. As previously noted, although sampling was completed in accordance with the LTMP in June 2018, VOC and/or dissolved gas samples were re-collected at several wells in July and September 2018 due to laboratory hold time issues with the initially collected samples (see Section 3.2). The weather during June sampling activities was generally 65 degrees Fahrenheit (°F) in the morning and



warmed to the upper 80s°F in the afternoons. Weather during July sampling activities was sunny with temperatures around 90°F, and there was no precipitation. Weather during September sampling activities was sunny with temperatures between 70°F and 80°F, and there was no precipitation.

One onsite monitoring well (BW-16) was sampled during a semiannual sampling event in December 2018, but it was only analyzed for chloride due to the presence of permanganate. Weather during December sampling activities was sunny with temperatures in the 30s°F, and there was no precipitation.

The results of the 2018 groundwater sample analysis are presented and discussed in Section 3.

## 2.2.1 Annual LTMP Monitoring Well Inspections and Monitoring

### 2.2.1.1 Monitoring Well Maintenance Inspections

With the exception of two monitoring wells (BW-18 and MW-20), field personnel inspected and evaluated the condition of wells included in the LTMP monitoring well network and of “water level only” wells during site-wide collection of groundwater level measurements in June 2018. Access was not granted to BW-18 and MW-20 in June 2018; therefore, the condition of these wells was evaluated in September 2018 when access was received. Field observations were recorded on groundwater level measurement forms and monitoring well purging forms, copies of which are contained in Appendix A of this report.

Five monitoring wells were identified for repair including BW-02 (heaved concrete pad), BW-04 (top of the casing is broken), BW-09 (locking cap damaged), MW-07 (heaved concrete pad and cannot close well), and MW-13 (cannot close well). Monitoring well MW-13 was later destroyed in October 2018 during construction activities at the neighboring property. It is proposed that MW-13 be abandoned and replaced (MW-13R) prior to June 2019 sampling activities. Repairs to offsite wells (BW-02, BW-09, and MW-07) will be conducted concurrently with installation of replacement well MW-13R.

The repairs to onsite well BW-04 will be conducted concurrently with the replacement of monitoring well BW-27 and the abandonment and replacement of injection well ISCO-IW02. EPA requested monitoring well BW-27 be abandoned prior to initiating excavation activities (EPA, 2018). It is recommended that replacement well BW-27R is installed prior to the next annual sampling event in 2019. The 2017 ARPR recommended abandoning and replacing injection well ISCO-IW02 (found to be obstructed) prior to the next scheduled injection event in 2019 (CH2M, 2018b).

### 2.2.1.2 Groundwater Level Measurements

Groundwater levels and total well depths were measured in accordance with the QAPP using an electronic monitoring meter at 62 monitoring wells between June 11 and 12, 2018. Water level measurements were collected within a 27-hour time period versus the 24-hour period noted in the LTMP, with the exception of BW-18 and MW-20, which were accessed on September 13. Water level measurements were recorded on field forms included in Appendix A and are presented in Table 2-1.

### 2.2.1.3 Groundwater Sampling Activities

Groundwater sampling was conducted between June 12 and 14, 2018, with samples collected from 38 of the 39 monitoring wells specified in the LTMP. Monitoring well BW-18 was sampled in September 2018 when access had been granted. Additionally, monitoring well MW-06 went dry during sampling in June 2018 and sufficient sample volume was available only for VOC analysis.

Field parameters were measured and recorded on monitoring well purging forms during the sample purging process (Appendix A). As noted in the LTMP, field parameters cannot be accurately measured from FLUTE™ wells, which are primarily used to screen zones in the intermediate and deep bedrock due to the physical characteristics of the FLUTE™ system and the nature of the sampling method; therefore, field parameters were not measured in FLUTE™ wells. Additionally, the LTMP states that dissolved



oxygen (DO) readings should not be collected from onsite wells due to the presence of the permanganate (which damages the DO probe membranes). Some of the 2018 sampling equipment had optical DO sensors that are not damaged by permanganate, so DO measurements were collected from select onsite wells.

A spectrophotometer was used at LTMP onsite wells to measure the concentrations of permanganate detected in the groundwater. Samples collected at monitoring wells MW-04 and BW-04 (associated with Injection Area 5), BW-16 (associated with Injection Area 7), and PZ-01 (Injection Area 3) were only analyzed for chloride in June 2018, as outlined in the QAPP, because permanganate was observed in the water during sampling. It should be noted that the previous permanganate injection event ended in December 2017 (6 months prior to this sampling event).

Low-flow sample collection methods were used at 21 of the 28 wells sampled in accordance with the QAPP and EPA's *Groundwater Sampling Guidelines for Superfund and RCRA Project Managers* (EPA, 2002). The groundwater samples from the seven FLUTE™ systems wells were collected using compressed nitrogen gas in accordance with the purging procedures for these wells as presented in the QAPP.

### 2.2.2 July and September Groundwater Monitoring

Wells were sampled in accordance with the procedures outlined in Section 2.2.1.3. VOC and/or dissolved gas samples were re-collected at several wells (BW-02 [VOCs], BW-09 [dissolved gases], BW-14 [VOCs, dissolved gases], BW-26-65' [dissolved gases], BW-26-85' [dissolved gases], BW-26-395' [dissolved gases], BW-34 [VOCs], and BW-37 [VOCs]) in July and September 2018 due to laboratory hold time issues with the initially-collected samples from June (see Section 3.2). In addition to those eight wells, the laboratory analyzed the VOC sample collected at monitoring well MW-06 two times outside of the QAPP-specified hold time QAPP (CH2M, 2014). Re-sampling of MW-06 was attempted in September 2018; however, because the well was dry a sample could not be collected. As previously noted, monitoring well BW-18 was also sampled in September 2018 after access had been granted to this well. July and September 2018 field parameter measurements were recorded on monitoring well purging forms (Appendix A).

### 2.2.3 December Groundwater Monitoring

One onsite monitoring well (BW-16) was sampled during a semiannual sampling event as recommended in the 2017 ARPR (CH2M, 2018b). The groundwater sampling event was conducted on December 5, 2018, following the low-flow sampling procedures previously described in Section 2.2.1.3. December 2018 field parameter measurements were recorded on monitoring well purging forms (Appendix A). The sample collected at monitoring well BW-16 was only analyzed for chloride in December 2018, as outlined in the QAPP, because of the presence of permanganate noted at the time of sampling.

## 2.3 Institutional Controls Inspection

A visual inspection of the property at 2040 West River Drive was conducted on June 15, 2018 in accordance with the ICP (CH2M, 2014). The observations noted during the inspection were recorded on the IC visual inspection form included in Appendix A to this document, along with photographs taken during the inspection. The visual inspection noted no changes to land use, no new construction, no evidence of excavation, and no activities inconsistent with the required ICs. Onsite soil was noted as disturbed in relation to recent April and July 2018 soil sampling activities. Soil cuttings from the sampling were noted as having been properly managed in accordance with the WHP.



An Environmental Covenant (EC) for the site, which documents the required ICs and deed restrictions for the property, was recorded by Scott County in the State of Iowa on March 28, 2016. No additional site documents were found to be recorded at the County in regard to property ownership or land use zoning that may affect ICs.

## 2.4 Waste Disposal

Several waste streams were generated and managed during work activities in 2018. A description of the generated waste and a summary of transportation and disposal activities are presented in Table 2-2. Waste manifests and associated documents are included in Appendix A.



# 2018 Data Results and Evaluation

The 2018 analytical data are presented in this section, which is organized to present the physical (hydraulic) groundwater data followed by the chemical analytical results, MNA performance data, and ISCO operational data.

## 3.1 Physical (Hydraulic) Groundwater Data

### 3.1.1 Percent Occlusion Evaluation

Percent occlusion calculations were completed for 47 of the 62 wells where water levels were collected in 2018 to evaluate whether sediments are accumulating within and obstructing monitoring well screens. Due to the unique construction of the FLUTe™ monitoring wells (15), depth to bottom measurements cannot be collected so percent occlusion calculations were not completed for these wells. Percent occlusions for the 47 remaining wells are included in Table 2-1. The following can be noted from the calculations:

- Negative values indicate a percentage of occlusion of the well screen (sediment accumulation), positive values indicate the 2018 measured depth is greater than the initially noted construction well depth;
- The calculated percent occlusion was less than 10 percent for 45 of 47 wells. Redevelopment is not recommended for those wells;
- The percent occlusion for BW-05 is estimated at 24.4 percent in 2018. The depth to bottom of BW-05 measured in June 2018 is over 2 feet shallower than in June 2017, and it was noted as having a soft bottom during water level measurements (see Appendix A). It is recommended that this well is redeveloped prior to annual sampling activities 2019; and
- The percent occlusion for BW-33 is estimated at 11.3 percent in 2018. It is recommended that this well is redeveloped prior to annual sampling activities 2019.

### 3.1.2 Physical (Hydraulic) Groundwater Results

The June 2018 hydraulic groundwater data (groundwater elevations and potential groundwater flow directions) are consistent with the established CSM (see Table 2-1 and Figures 3-1 and 3-2) as outlined in the approved OMMP. The configurations of groundwater elevation contours for the unconsolidated (Figure 3-1) and shallow bedrock (Figure 3-2) zones are similar to one another in 2018 and are consistent with historical observations. Accessible wells that are present at the site but that are not specifically required to be accessed/sampled per the LTMP were used to supplement groundwater elevation data in the unconsolidated and shallow bedrock monitoring zones.

A contour map was not generated for the intermediate or deep bedrock zones in 2018. The 2018 groundwater elevations in the intermediate and deep bedrock zone wells differ by very small values (0.09-feet and 0.26-feet, respectively)—amounts that are within the elevation measurement error for the FLUTe™ system, and that likely negate the accuracy of calculated flow directions.

A representative hydrograph using water level data compiled since 2002 is included in Appendix B for each groundwater monitoring zone (unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock) to illustrate overall trends by zone. The groundwater elevations measured in 2018 (Table 2-1) for the unconsolidated shallow, intermediate, and deep bedrock zones were generally higher than those



measured for the previous years' sampling events but are still within the range of historically observed measurements.

Groundwater elevation data were used to calculate the vertical and horizontal groundwater gradients and estimated groundwater velocities, as shown in Appendix B. Calculated 2018 horizontal velocities in the unconsolidated and shallow bedrock zones are within the range of observed historical values. Horizontal gradients and velocity were not calculated for the intermediate and deep bedrock zones in 2018 because the range in groundwater elevations was within the measurement error for the FLUTE™ system, and that likely negates the accuracy for the calculations. Vertical gradients were variable across the site, with both upward and downward gradients present in each monitoring zone (consistent with historical conditions). Vertical seepage rates from the unconsolidated zone to the shallow bedrock zone in 2018 were within the range of observed historical values.

## 3.2 Chemical (Field Parameter and Laboratory Analytical) Groundwater Monitoring Data

Field parameter readings recorded during the 2018 groundwater sampling activities are summarized in Table 3-1. Analytical laboratory data reports are included in Appendix C and a summary of analytical results is presented in Table 3-2.

An overall evaluation of the field and laboratory data indicates that the sample handling and shipment procedures were followed per the QAPP (Appendix D). Valid laboratory data are defined as all data that are not rejected for project use. Because the analytical holding times were exceeded for VOCs and/or dissolved gases in several samples collected in June 2018, samples/parameters were re-collected from eight monitoring wells as described in Section 2.2 and in Appendix D. Only the final/re-collected laboratory analysis datasets are reported in the analytical summary table for these wells (Table 3-2).

The September 2018 re-collected sample at BW-34 also exceeded analytical hold times by 7 hours. Because the analytical hold time was only exceeded by 7 hours, a project level decision was made to not sample the well for a third time in 2018. During the data validation process, the September results for BW-34 were flagged with data qualifiers to represent “estimated” per the project QAPP and EPA guidance: non-detected results were qualified “UJ” and detected results were qualified “J” (Appendix D).

The analytical hold time for the VOC sample collected at a ninth location, MW-06 in June 2018, was also exceeded. Because this well was dry when a re-collection sample was attempted in September, the June 2018 results are reported in Table 3-2. Per established data validation processes, the VOC compounds that were not detected at MW-06 were rejected (“R”) for project use due to the holding time being exceeded by more than two times the required time period, and the detected VOC results were qualified “J”. However, because a complete set of valid (non-rejected) data is not available at MW-06 for June 2018, and because the sample was analyzed two times outside of its hold time, none of the results were used for data evaluation purposes in this ARPR.

In addition to the samples collected from the nine monitoring wells noted above, dilution analysis that was required to be run in June 2018 for individual VOC compounds at four wells also exceeded analytical hold times by one day as follows: MW-03 (cis-1,2-dichloroethene [cis-1,2-DCE]), BW-27 (cis-1,2-DCE), BW-28 (cis-1,2-DCE), and BW-31 (1,1,1-TCA). Because the analytical hold time was only exceeded for select compounds at these wells, a project level decision was made to not resample them. Non-detected results were qualified “UJ” and detected results were qualified with a “J” for estimated.

The resultant groundwater dataset for the various monitoring well locations that was used in 2018 is included in Table 3-2. A summary of the methods used and calculations completed to evaluate the groundwater data as summarized herein is included in Appendix E of this ARPR.



### 3.2.1 VOC Overview

The AOC (Section XXVIII, item number 45) established RAOs for 18 VOCs based on the historical environmental data that were evaluated and summarized. As noted in the AOC, the Respondents believe that benzene originates from offsite sources other than Respondent operations, but benzene is included in the ARPR total VOC distribution discussions and mass estimates that follow.

The following classes of VOCs were detected in groundwater in 2018 (consistent with historical monitoring results):

- Chlorinated VOC (CVOC) biodegradation “parent” compounds—1,1,1-TCA, tetrachloroethene (PCE), trichloroethene (TCE), and methylene chloride
- CVOC biodegradation “daughter” products (compounds that are degradation products due to natural biological and other processes)—1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE), chloroethane, and vinyl chloride
- Aromatics—benzene, toluene, ethylbenzene, and xylenes (BTEX) and styrene (benzene is not a site-related COC and it is detected at lower concentrations than the other aromatics; however, it is included in the trend and mass analysis discussions below to be conservative)
- Nonchlorinated VOCs—Acetone

2-butanone (MEK) has historically been considered a site-related COC but was not detected in groundwater in 2018. Overall data statistics for VOC detections in 2018 are shown in Table 3-3 (Appendices F and G of this ARPR contain more detailed statistical results). Consistent with historical observations, these statistics indicate that the biodegradation daughter products 1,1-DCA, cis-1,2-DCE, and vinyl chloride are detected at the highest frequency (in at least 67.7 percent of the samples) across the site versus other VOC analytes that were not detected in as many locations (Table 3-3).

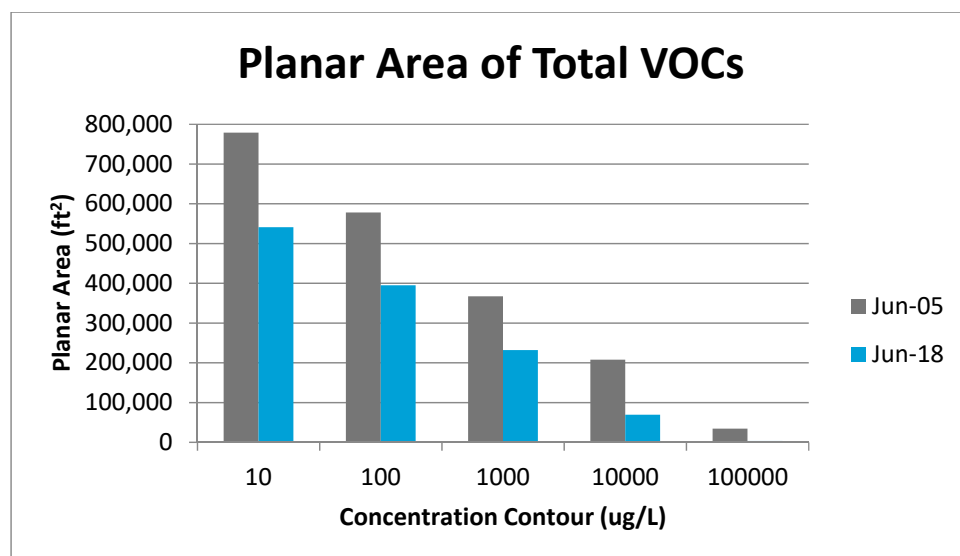
### 3.2.2 VOC Concentration Distribution

#### 3.2.2.1 Total VOCs

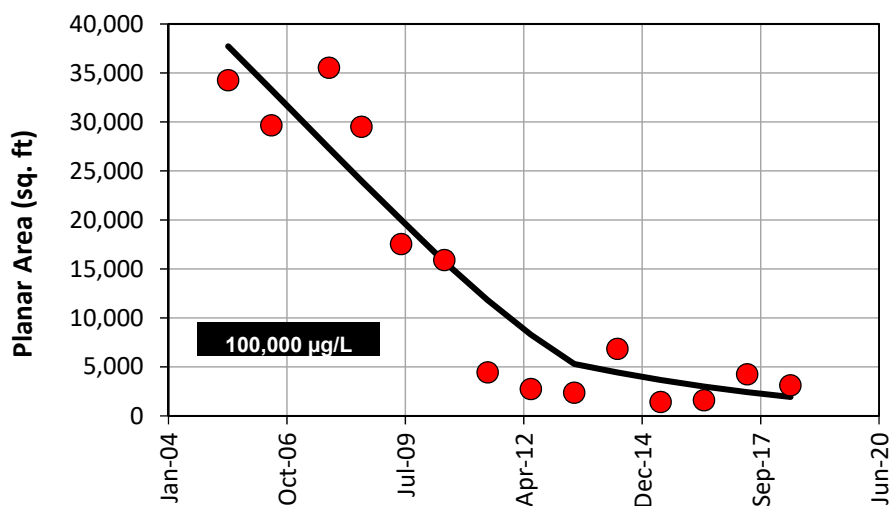
Isosurface plots of total VOC concentrations from June 2005 and June 2018 are presented (Figure 3-3) to show the changes, over the 13-year time period, in size and configuration of the area of dissolved, site-related COCs in groundwater. As shown on Figure 3-3, the lateral extent of total VOC detections in groundwater in 2018 is reduced as compared with the lateral extent of total VOC detections in 2005. Furthermore, the magnitude of the total VOC concentrations has decreased as evidenced by smaller planar areas (in 2018 versus 2005) that are encompassed by the higher concentration contours (10,000 and 100,000 micrograms per liter [ $\mu\text{g/L}$ ] – yellow and peach colors, respectively). A summary of the method used to generate these isosurface plots is included in Appendix E.

Quantitative analysis of total VOC concentration isosurfaces was completed by evaluating the planar areas consisting of concentrations of 10  $\mu\text{g/L}$ , 100  $\mu\text{g/L}$ , 1,000  $\mu\text{g/L}$ , 10,000  $\mu\text{g/L}$ , and 100,000  $\mu\text{g/L}$  or greater. The Mann-Kendall test (Gilbert, 1987) was used to make inference concerning the trends in the planar areas of total VOC concentrations over time. A Mann-Kendall trend analysis of the planar area encompassed by each contour interval was performed comparing the areas in 2005 with those in 2018, as shown below and in Table 3-4. The results of the Mann-Kendall trend analysis indicate that the planar area encompassed by each concentration contour is decreasing through time. The comparison for the two separate years is also depicted on the following graph:





An evaluation of the changes of planar area within the highest concentration contour (100,000 µg/L) indicates a decrease from roughly 34,300 to 3,100 square feet (ft²) (a decrease of 31,200 ft²) between 2005 and 2018. The total VOC planar area surrounded by the 100,000-µg/L contour is also shown for each of the years starting with 2005 in the following graph:



Note: Mann-Kendall Result – decreasing trend (100 percent confidence interval)

### 3.2.2.2 CVOCs

As shown on Figure 3-4, the lateral extent of CVOC detections in 2018 is reduced as compared with the lateral extent of CVOC detections in 2005, especially in offsite areas located south and southeast of 2040 West River Drive. Furthermore, the decreasing magnitude of the CVOC concentrations is also evidenced by smaller planar areas that are encompassed by the higher concentration contours (10,000 and 100,000 µg/L – yellow and peach colors, respectively).

#### CVOC Parent Compounds

Parent CVOCs were detected in groundwater in the unconsolidated zone, as well as in the shallow, intermediate, and deep bedrock zones in 2018. Consistent with historical datasets, the highest total parent CVOC concentrations are observed in the shallow bedrock zone in 2018 at the following locations (Figure 2-2, Table 3-2):



- Onsite—northern portion of site: BW-27 (6,510 µg/L; 1,1,1-TCA dominant), BW-28 (7,760 µg/L; 1,1,1-TCA dominant), and BW-31 (6,324 µg/L; 1,1,1-TCA dominant). BW-16 has historically had elevated concentrations of total parent CVOCs; however, permanganate was observed in BW-16 during 2018 groundwater sampling events, and therefore a VOC sample was not collected in 2018.
- Onsite—southern portion of site near former storage area: BW-37 (139,500 µg/L; methylene chloride dominant); and BW-03R (8,485 µg/L; 1,1,1-TCA dominant).
- Offsite—downgradient from the former storage area in the southeast direction: BW-14 (10,000 µg/L; 1,1,1-TCA dominant). The 1,1,1-TCA concentration at BW-14 (10,000 µg/L) is almost 50% lower than the closest upgradient, onsite concentration (BW-37; 19,000 µg/L).

The detected concentrations of the CVOC parent compounds PCE and TCE that exceed RAOs in the shallow bedrock zone are limited to onsite monitoring well locations (Figure 3-5). Detected concentrations of the CVOC parent compound 1,1,1-TCA that exceed RAOs in the shallow bedrock zone are limited to onsite monitoring well locations with the exception of BW-14, which located adjacent to and directly downgradient of the site (Figure 3-6).

The ratio of total CVOC parent compound concentrations (the sum of PCE, TCE, 1,1,1-TCA, and methylene chloride) versus total CVOC concentrations (the four parent compounds plus daughter products concentrations of 1,1-DCA, 1,1-DCE, 1,2-DCA, cis-1,2 DCE, trans-1,2-DCE, chloroethane, and vinyl chloride) using 2018 data is summarized on Figure 3-7. Locations where the percentage of detected CVOC parent compounds versus total detected CVOCs exceeds a value of 50 percent (indicating a predominance of parent compounds at that location) are limited to onsite monitoring well locations at MW-04, BW-04, MW-05, MW-06, MW-08, BW-31, and BW-37 (orange-colored dots). The highest percentage of detected CVOC parent compounds was observed in samples from onsite unconsolidated monitoring wells (MW-04 at 84.4 percent, MW-05 at 86.6 percent). The percentages of detected CVOC parent compounds generally decrease away from the onsite area and with depth in the bedrock aquifer.

### CVOC Daughter Products

CVOC daughter products were detected in the unconsolidated, shallow, intermediate, and deep bedrock zones in 2018. Two daughter products (1,1-DCA, a biodegradation daughter product of 1,1,1-TCA, and cis-1,2-DCE, a biodegradation daughter product of PCE/TCE) are the most frequently detected compounds in sampled wells (detected in 73.5 percent and 70.6 percent of wells sampled in 2018; see Table 3-3). Two additional PCE/TCE daughter products (vinyl chloride and trans-1,2-DCE) are also detected relatively frequently (67.7 percent and 58.8 percent, respectively) when compared with the detection frequencies of the other CVOC daughter products.

Consistent with historical sampling, the highest concentrations of total CVOC daughter products were observed in the shallow bedrock zone in 2018 at the following wells:

- Onsite—northern portion of site: shallow bedrock wells BW-27 (184,660 µg/L; cis-1,2-DCE dominant) and BW-05 (156,550 µg/L; cis-1,2-DCE dominant). BW-27 was also identified as an area with the highest parent CVOC concentrations. BW-16 has historically had elevated concentrations of total daughter CVOCs; however, permanganate was observed in BW-16 during 2018 groundwater sampling events, and therefore a VOC sample was not collected in 2018.
- Onsite—southern portion of the site: shallow bedrock wells BW-37 (81,033 µg/L; cis-1,2-DCE dominant) and BW-03R (87,580 µg/L; cis-1,2-DCE dominant). BW-37 and BW-03R were also identified as wells with the highest parent CVOC concentrations.
- Offsite—downgradient from the former storage area in the southeast direction: shallow bedrock well BW-14 (145,109 µg/L; cis-1,2-DCE dominant). BW-14 was also identified as an area with the highest offsite parent CVOC concentrations.



The lateral extent of the detected concentrations of cis-1,2-DCE and vinyl chloride in the shallow bedrock zone that are greater than RAOs is shown on Figure 3-5. The lateral extent of the detected concentrations of 1,1-DCA, 1,1-DCE, 1,2-DCA (daughter products of 1,1,1-TCA) in the shallow bedrock zone that are greater than RAOs is shown on Figure 3-6.

CVOC daughter product concentrations predominate versus parent concentrations at offsite wells (green dots shown on Figure 3-7). At each offsite well where parent compound(s) are detected, either:

1. The total of detected parent compound concentrations comprises less than 7 percent of the total CVOC concentration; or,
2. individual, detected parent compound concentrations are below their respective RAOs.

### 3.2.2.3 Aromatic Compounds

Individual aromatic compounds were generally detected less frequently and at lower concentrations in 2018 compared with CVOC detections/concentrations (similar to the historical observations) (see Tables 3-2 and 3-3). Aromatic compounds detected at the site include BTEX. Aromatic compounds were detected in 18 of 34 monitoring wells (53 percent) that were sampled for VOCs in 2018. Toluene and xylene concentrations are generally detected at an order of magnitude higher than ethylbenzene concentrations and over two orders of magnitude higher than benzene concentrations (see Table 3-3).

Aromatic compounds were detected in both onsite and offsite monitoring well locations within the shallow, intermediate, and deep bedrock zones. Aromatic compounds were not detected in the unconsolidated zone at onsite or at offsite locations in 2018.

The lateral extent of aromatic compound (BTEX and styrene) detections in 2018 is reduced as compared with the lateral extent of aromatic compound detections in 2005 (Figure 3-8). The magnitude of the aromatic concentrations has also decreased as evidenced by smaller planar areas or lack of planar areas for the higher concentration contour zones (10,000 and 100,000 µg/L; yellow and peach colors, respectively). The lateral extent of BTEX compounds detected above RAOs in the shallow bedrock zone June 2018 is shown on Figure 3-9. Concentrations of BTEX compounds above RAOs are limited to two areas of the site, including a northern onsite area near/around BW-27 and an area within and downgradient from the former storage area in the southern portion of the site.

The highest concentrations of total aromatic compounds were detected in the following shallow bedrock or intermediate bedrock site wells:

- Onsite—northern portion of the site: BW-27 (11,400 µg/L; total xylenes dominant)
- Onsite—southern portion of the site in the former storage area: BW-37 (24,596 µg/L; toluene dominant) and BW-03R (10,200 µg/L; toluene dominant)
- Offsite—downgradient from former storage area in the southeast direction: BW-14 (50,959 µg/L; toluene dominant), BW-26-65' (22,384 µg/L; toluene dominant), and BW-26-85' (10,266 µg/L; toluene dominant)

Aromatic compounds are petroleum-related VOCs that may serve as carbon and energy sources to drive the dechlorination process for CVOCs through biodegradation (EPA, 1998). In the process of being an electron donor, petroleum-related VOCs are also biodegraded to nontoxic end products. It should be noted that the petroleum hydrocarbons are not the only potential source of electron donors to support reductive dechlorination. For example, due to the high frequency of flooding at the site, the Mississippi River is a periodic source of natural organic carbon to the shallow bedrock groundwater; this natural carbon source can also provide electron donors to support reductive CVOC dechlorination.

Permanganate has also been shown to be an effective oxidant of toluene, ethylbenzene, and xylenes (Interstate Technology Regulatory Council [ITRC], 2005).



### 3.2.3 VOC Concentration Trend Analysis

The Mann-Kendall test evaluation, supporting analysis of VOC concentration trends, was conducted using the complete historical dataset (1999 through 2018) to make statistical inference concerning concentration trends of VOC data collected from the 39 LTMP locations at the site. A summary of the Mann-Kendall statistical method is included in Appendix E. Historical trend graphs of total VOC concentrations and Mann-Kendall statistical results are presented in Appendix F.

#### 3.2.3.1 Total VOCs

For 21 of 21 (100 percent) onsite wells and 18 of 18 (100 percent) offsite wells, Mann-Kendall statistical analysis indicates the following (Table 3-5):

- Total VOC concentrations are decreasing or have no statistical trend, or
- Individual VOC compounds were not detected in at least 50 percent of each well's historical sampling events; therefore, trend analysis for total VOCs is not appropriate.

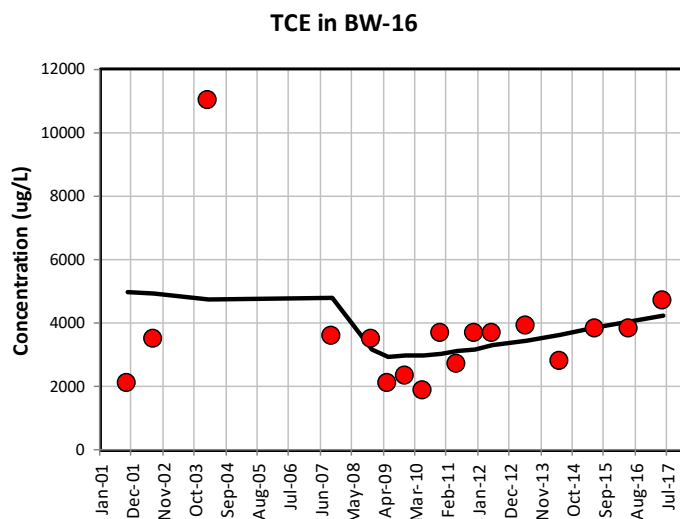
#### 3.2.3.2 Individual CVOC Parent Compounds

Because of the relatively large number of trend analyses associated with numerous individual CVOC parent compounds (156), see Appendix F for individual tables and graphs. For 20 of 21 (95 percent) onsite wells and 18 of 18 (100 percent) offsite wells, Mann-Kendall statistical analysis indicates the following:

- Individual CVOC parent compound concentrations for PCE, TCE, 1,1,1-TCA, and methylene chloride are decreasing or have no statistical trend, or
- Individual CVOC parent compound concentrations for PCE, TCE, 1,1,1-TCA, and methylene chloride were not detected in at least 50 percent of the well's historical sampling event such that trend analysis is not appropriate.

The onsite well with an increasing concentration trend is BW-16 for the CVOC parent compound TCE. A more detailed data analysis (review of data over time and use of a locally weighted scatter plot smoothing curve) of the TCE concentrations at this well was performed. As shown on the graph below, further analysis confirmed using historical through June 2016 data that this well has increasing concentrations of TCE; as such, per the LTMP, semiannual sampling for a period of 2 years is required at this well. It should be noted that this well is located in an active ISCO treatment area (Area 7) and permanganate has been observed in BW-16 since December 2017. Semiannual sampling was attempted at BW-16 in December 2017, June 2018, and December 2018; however, because permanganate was present, the sample was only analyzed for chloride per the LTMP. Due to the persistence of permanganate at this well since December 2017, it is recommended that BW-16 continue to be sampled annually in June until permanganate is no longer observed at the well. After it is observed during a June sampling event that the permanganate has dissipated from this well, semiannual sampling will commence for a period of 2 years.





### 3.2.3.3 Individual CVOC Daughter Products

Because of the relatively large number of trend analyses (78) associated with the individual CVOC daughter compounds cis-1,2-DCE and vinyl chloride, see Appendix F for individual tables and graphs. For 18 of 21 (86 percent) onsite wells and 17 of 18 (94 percent) offsite wells, Mann-Kendall statistical analysis indicates the following:

- Individual CVOC daughter product concentrations of cis-1,2-DCE and vinyl chloride are decreasing or have no statistical trend, or
- Individual CVOC daughter product concentrations of cis-1,2-DCE and vinyl chloride were not detected in at least 50 percent of the historical sampling events at the well, so trend analysis is not appropriate.

The wells with either increasing cis-1,2-DCE and/or vinyl chloride trends are:

- Onsite well locations - BW-23-50' (vinyl chloride), BW-27 (cis-1,2-DCE and vinyl chloride), and BW-37 (vinyl chloride)
- Offsite well location—BW-14 (vinyl chloride)

Additional data analysis (review of data over time and use of locally weighted scatter plot smoothing curves) of the individual CVOC daughter product concentrations for cis-1,2-DCE and vinyl chloride at BW-14, BW-23-50', BW-27, and BW-37 was completed as summarized in Appendix G. Further analysis confirms these wells have increasing trends of individual CVOC daughter products (Appendix G), along with indications of ongoing biodegradation, as summarized in Table 3-6. Indications of ongoing biodegradation include (but are not limited to) stable or decreasing trends of total VOCs; detection of nontoxic end products; MNA data indicative of reductive dechlorination; well location within/downgradient from the radius of influence [ROI] of ISCO injection zones; and/or detection of aromatic compounds.

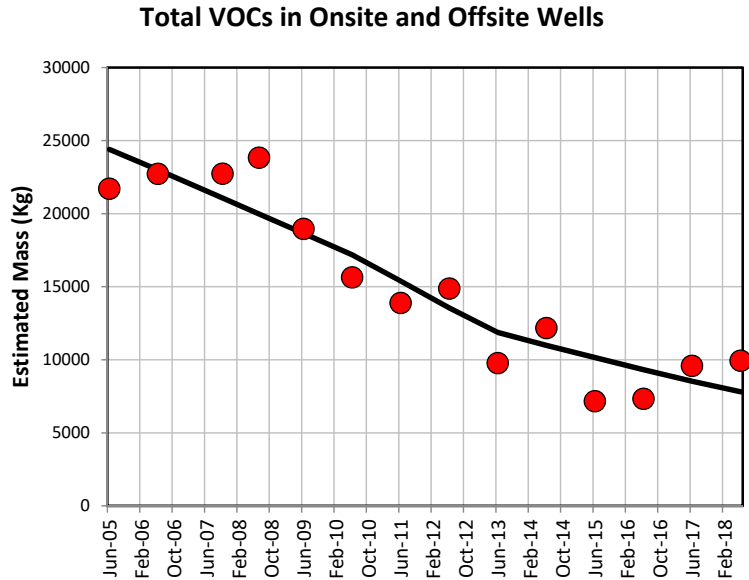
### 3.2.4 Mass Estimates—Trends and Composition

To evaluate the stability of the area where total VOCs are detected in groundwater, the total integrated (i.e., summed) mass is estimated at annual time intervals and then the associated trends of total VOC mass over time are analyzed. The comparison of mass is a relational exercise. Individual mass for a given year is considered to be an estimate but is comparable from year to year because a consistent approach is used. A summary of the method used to calculate total mass estimates and mass estimates for individual VOC compounds is included in Appendix E.

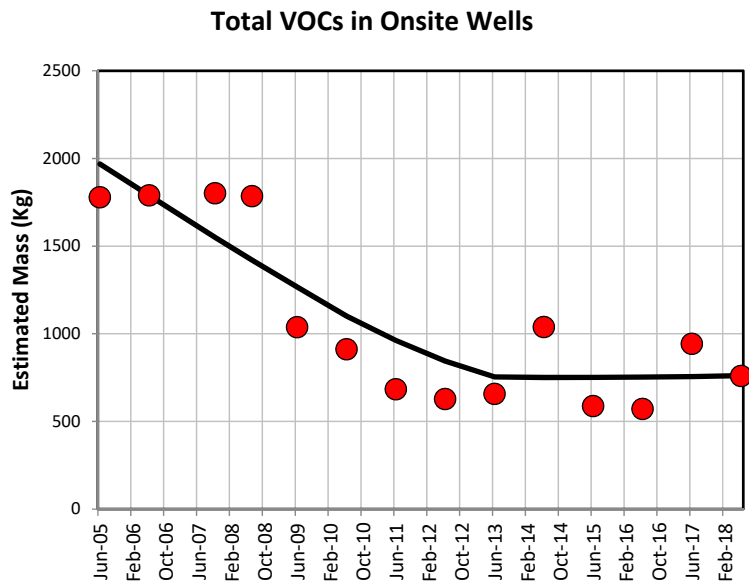


### 3.2.4.1 Total VOC Mass Estimates

Total VOC mass estimated for groundwater in the LTMP well network (Table 3-7) over time indicates a decreasing trend (with a 100-percent confidence interval) as shown in the following graph:



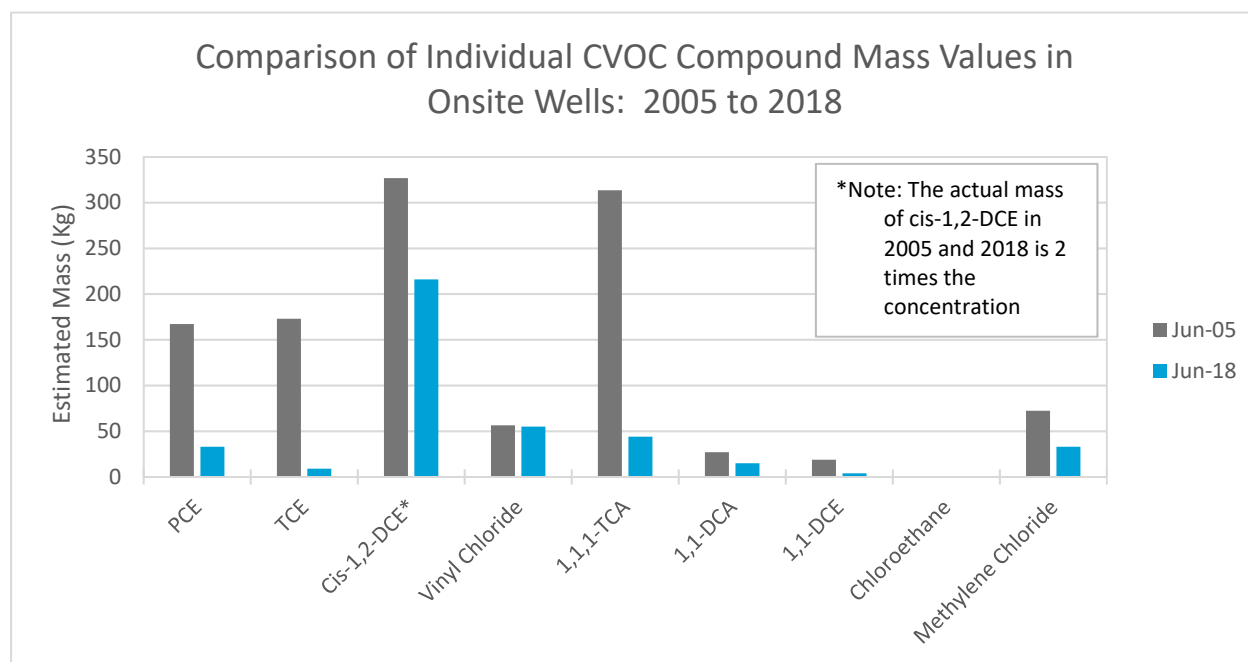
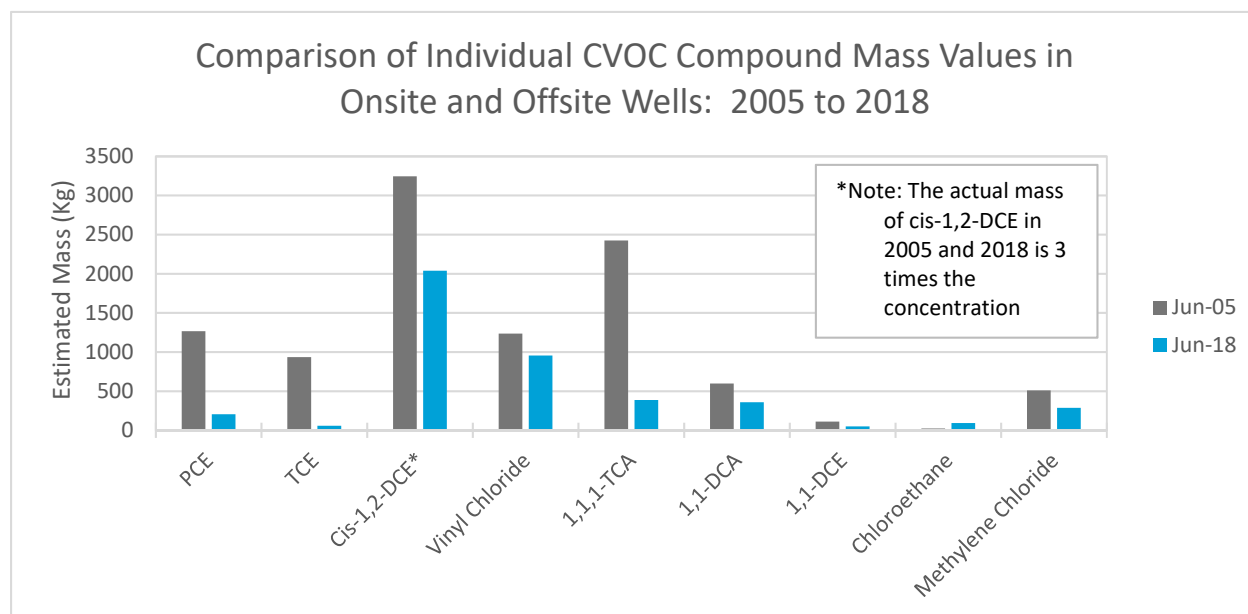
A decreasing trend (99.8-percent confidence interval) is also indicated for onsite total VOC mass estimates (Table 3-8) over time (as calculated using an onsite polygon network presented in Appendix E) as indicated in the next graph:



### 3.2.4.2 Individual VOC Compound Mass Estimates

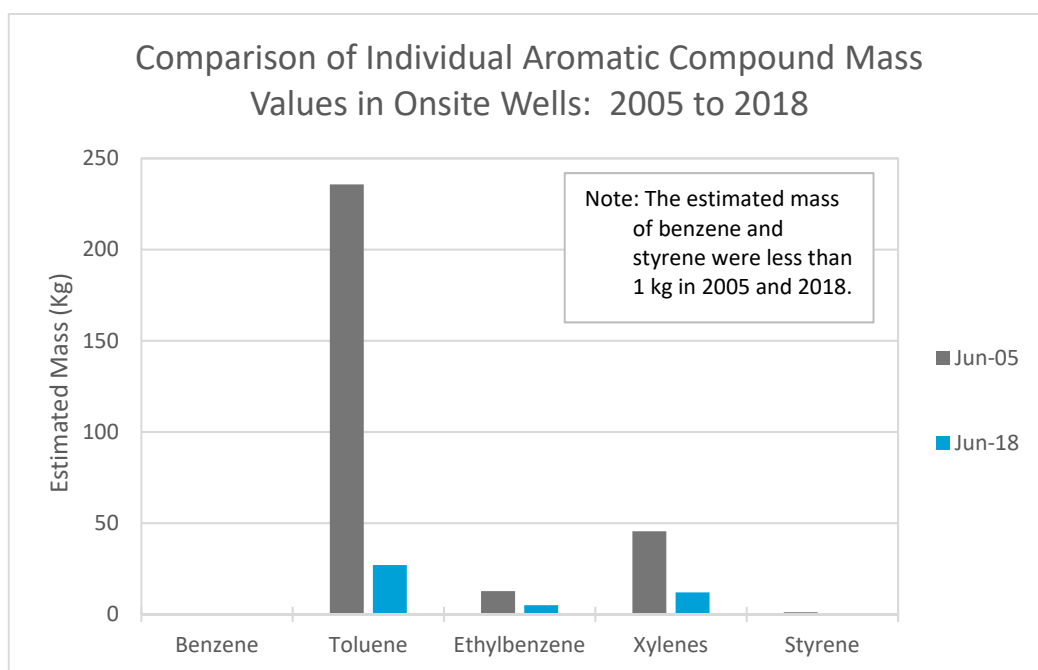
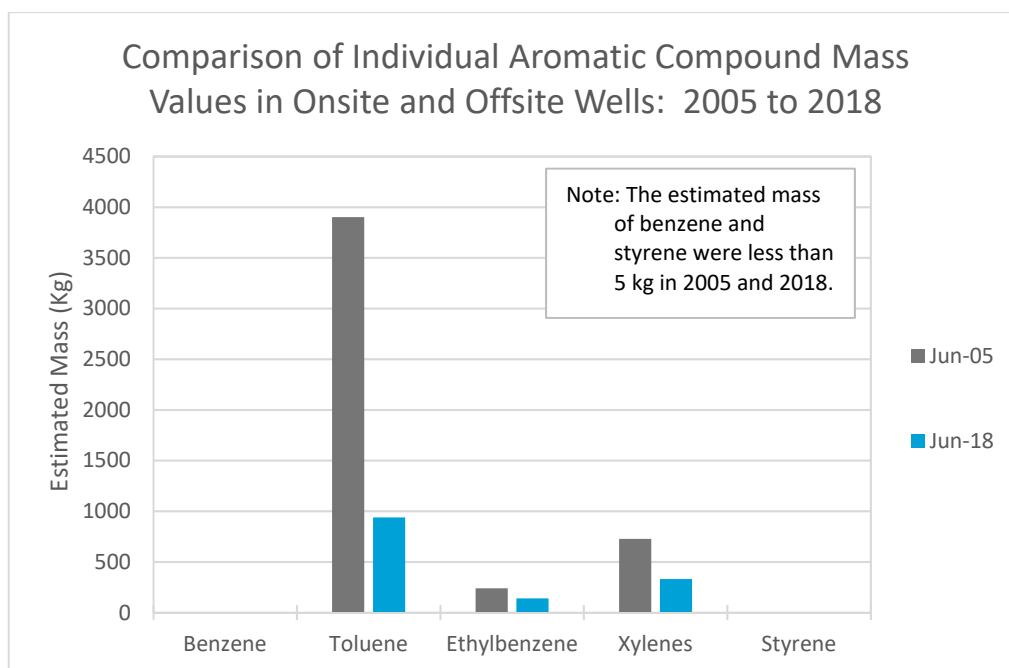
A comparison of the annual mass estimates for individual CVOC compounds (PCE, TCE, 1,1,1-TCA, methylene chloride, cis-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1-DCA, and chloroethane) in the LTMP (onsite plus offsite wells) and onsite networks in 2005 and 2018 are presented in Tables 3-7 and 3-8 and shown on the following graphs:





A comparison of the annual mass estimates for individual aromatic compounds in the LTMP (onsite + offsite wells) and onsite networks in 2005 and in 2018 are presented in Tables 3-7 and 3-8 and shown on the following graphs:





Notable observations regarding mass trends for individual VOC compounds between 2005 and 2018 include the following:

- The estimated mass for individual CVOC parent compounds PCE, TCE, 1,1,1-TCA, and methylene chloride is decreasing.
- The estimated mass for individual CVOC daughter products (cis-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1-DCA, and 1,2-DCA) and aromatic compounds (toluene, ethylbenzene, and xylenes) is decreasing, suggesting that natural biodegradation processes are ongoing and that daughter products continue to degrade to nontoxic end products.



- The percentage of the total VOC mass contributed by CVOC parent compounds (PCE, TCE, 1,1,1-TCA, and methylene chloride) has decreased since 2005. In 2018, the percentage of total CVOC parent compound mass makes up less than 10 percent of the total VOC mass in the LTMP (onsite + offsite) polygon network as compared to 24 percent in 2005 (Table 3-7).
- Over 75 percent of the total VOC mass in the LTMP (onsite + offsite) network is attributed to CVOC daughter products in 2018 compared with 54 percent in 2005 (Tables 3-7).

### 3.2.5 MNA Performance Monitoring Data

A summary of 2018 MNA performance monitoring data for offsite monitoring wells is included in Tables 3-1 and 3-2.

#### 3.2.5.1 MNA Performance Monitoring Data Observations

MNA performance monitoring parameters include field-collected parameters (temperature, oxidation reduction potential [ORP], pH, and DO), alkalinity, nitrate, dissolved gasses (ethene, ethane, and methane), chloride, ferrous iron, sulfate, sulfide, total organic carbon, and VOCs. A review of the MNA monitoring data indicates the following:

- Downgradient and offsite groundwater conditions exhibit a reducing geochemical environment (represented by negative ORP readings, low DO, lack of nitrate, low sulfate, and/or presence of methane) that is conducive to ongoing anaerobic biodegradation of CVOCs.
- Elevated chloride concentrations in offsite/downgradient groundwater (2 to 10 times background concentrations) provide evidence of biodegradation of CVOCs through reductive dechlorination (chloride atoms are released during this process). The highest concentrations of chloride offsite occur downgradient from the former, southern storage area in the southeast direction: BW-14 (310 milligrams per liter [mg/L]), BW-25 (110 mg/L), BW-26-65' (300 mg/L), and BW-26-85' (260 mg/L).
- Detections of CVOC daughter products (cis-1,2-DCE, trans-1,2-DCE, 1,1-DCA, 1,1-DCE, chloroethane, and vinyl chloride) and ethene and/or ethane provide further evidence that active attenuation of CVOC parent compounds (PCE, TCE, and 1,1,1-TCA) is occurring through biological processes (specifically via “mediated reductive dechlorination” [EPA, 1998]). Complete dechlorination to nontoxic end products (ethene and/or ethane) is evidenced at 12 of the 18 offsite wells (Table 3-2). At the six offsite locations where ethene and ethane were not detected, either site-related COCs were also not detected, or detected concentrations of site-related COCs were below their respective RAOs.
- Aromatic compounds, which serve as electron donors (an energy source) for anaerobic biodegradation, were also detected in several of the offsite bedrock wells (3 of 10 shallow bedrock wells, 2 of 3 intermediate bedrock wells, and 1 of 2 deep bedrock wells) providing a continued fuel source for reductive dechlorination of CVOCs. Periodic flooding of the Mississippi River adjacent to the site provides additional organic materials (i.e., energy source/substrate) to groundwater.

#### 3.2.5.2 Preliminary Screening Table

To further support geochemical and VOC data findings, a preliminary screening for anaerobic biodegradation processes was completed for the offsite shallow bedrock groundwater where the highest concentrations and distribution of CVOCs occur. Based on the screening results (Table 3-9), there is “*Strong evidence for anaerobic biodegradation of chlorinated organics*” in offsite shallow bedrock groundwater (EPA, 1998). The intermediate and deep groundwater parameters show general evidence of anaerobic biodegradation similar to shallow bedrock wells values but are not presented in tabular form due to the limited number of wells screened in these two zones.



### 3.2.5.3 Ethene and Ethane Detections and Molarity

Because the molecular weight of ethene plus ethane is much lower relative to the molecular weight of CVOCs, an evaluation of these parameters was completed using molarity. The molarity of the following constituent datasets was calculated for the eight offsite wells where one or more VOCs were detected above RAOs in 2018:

- CVOC parent compounds PCE and TCE;
- CVOC daughter products cis-1,2-DCE and vinyl chloride; and
- Nontoxic end products ethene and ethane.

Figure 3-10 shows the percentage molarity that each individual compound comprises of the total molarity (total molarity equals the sum of PCE, TCE, cis-1,2-DCE, vinyl chloride, ethene, and ethane) at each offsite location where one or more VOCs was detected above RAOs in 2018.

Groundwater at monitoring locations that are relatively close to the site comprises a higher molar percent of the initial CVOC daughter products (cis-1,2-DCE and vinyl chloride) produced from the degradation of parent compounds PCE and TCE (Figure 3-10). Ethene and ethane comprises a higher percentage of total molarity in locations that are further downgradient from the site (BW-25/BW-26 nest), which is expected because these compounds are the end products of CVOC reductive dechlorination and indicate a “more advanced” MNA process at this more distant location.

### 3.2.5.4 MNA Conditions at Downgradient Perimeter Well Nest

A review of the data collected at downgradient perimeter well nest BW-25/BW-26 was performed that indicates evidence of continuing biodegradation in the location, supporting limited VOC migration from this location. Continuing biodegradation at BW-25/BW-26 is evidenced by the following conditions (EPA, 1998):

- Detection of CVOC daughter products: cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, chloroethane, vinyl chloride, 1,1-DCA, and 1,2-DCA
- The concentration of CVOC daughter products comprising greater than 99 percent of the total CVOC concentration at this location (Figure 3-7)
- The highest detected offsite concentrations of ethene plus ethane (greater than 1,000 µg/L; nontoxic end products of CVOC reductive dechlorination) in each of the bedrock zones (shallow, intermediate, and deep)
- Elevated chloride concentrations (2 to 10 times background concentrations)
- Reducing conditions: negative ORP readings to -63.1 millivolts (mV; BW-25 only – no field parameters available from BW-26, which is a FLUTE™ well)
- Nitrate concentrations less than 1 mg/L
- Sulfate concentrations less than 20 mg/L
- Detected methane concentrations of greater than 1,000 µg/L in each of the bedrock zones (shallow, intermediate, and deep)
- Detection of petroleum hydrocarbons which serve as an energy source for anaerobic biodegradation of CVOCs

### 3.2.5.5 MNA Summary Statement

Natural attenuation via anaerobic biodegradation processes (i.e., reductive dechlorination) is ongoing within the area of CVOC detections as demonstrated by 2018 data and continues to be an effective remedy for offsite groundwater.



## 3.2.6 ISCO Operational Data

### 3.2.6.1 Permanganate

#### June, July, and September 2018 Permanganate Observations

Per the schedule outlined in the ISCO Injection Plan, an injection was not completed in 2018. The last injection event was completed in 2017, and the next injection event will take place in 2019.

Permanganate was visually observed/noted in seven shallow bedrock monitoring wells and one unconsolidated zone monitoring well in June 2018 (observed either during the purging process, at the time of sampling, or during water level measurement process) as summarized in Table 3-10.

The field spectrophotometer was utilized at onsite wells where groundwater samples were collected in 2018. Permanganate was detected in three shallow bedrock zone and one unconsolidated zone monitoring wells at the time of sampling using this meter as summarized in Tables 3-1 and 3-10. Locations where samples were visibly clear (not pink/purple) and had field spectrophotometer readings of less than 5 mg/L are within the range of error of the meter and are not believed to be impacted by permanganate at the time of meter use/readings (so groundwater samples were collected). Two shallow bedrock monitoring wells (BW-33 and BW-05) had measured field spectrophotometer readings at the time of sampling that were greater than 5 mg/L. Water from both of these was visibly orange at the time of sampling; the orange coloration was attributed to biofouling at these wells (so groundwater samples were collected).

Consistent with historical observations, permanganate was not observed in June 2018 in either intermediate or deep bedrock zone monitoring wells, in monitoring wells at ISCO injection Areas 4 or 6 (Figure 2-1), or in offsite monitoring wells. The onsite well data indicate the oxidizing chemical persists for ongoing treatment of VOCs in groundwater at five (Areas 1, 2, 3, 5, and 7) of the seven (Areas 1, 2, 3, 4, 5, 7, and 8) ISCO injection areas where permanganate was injected in 2017.

Permanganate persisted in onsite groundwater for at least 12 months since the injection event that ended in December 2017 and the observations that were recorded in December 2018.

#### December 2018 Permanganate Observations

Permanganate was visually observed/noted in shallow bedrock monitoring well BW-16 at the time of sampling in December 2018 (Table 3-10).

### 3.2.6.2 Oxidation Reduction Potential

2018 ORP values are provided in Table 3-1. ORP is a relative measure of the groundwater's ability to accept or transfer electrons (EPA, 1998). In general, strongly positive ORP readings in groundwater indicate an ability to oxidize or accept electrons from other substances, and strongly negative ORP readings indicate an ability to reduce or transfer electrons to other substances. When ISCO is used/injected, an oxidant or electron acceptor such as permanganate is added to groundwater to oxidize VOCs. The oxidant's presence in groundwater is evidenced by ORP values that are higher (or more positive) than background conditions. As VOCs are oxidized, the oxidizing ability of groundwater decreases as does the ORP value.

Elevated ORP readings at and downgradient from ISCO injection areas provide evidence of oxidizing conditions due to the presence of permanganate in groundwater (beyond checking for visual evidence of purple color).

Onsite ORP values in 2018 are generally more oxidizing where the oxidant (permanganate) was observed at the time of sampling. The most oxidizing/highest positive ORP values are observed onsite at unconsolidated zone well MW-04 (June 2018: 668.5 mV), and shallow bedrock zone monitoring wells BW-16 (June 2018: 712.1 mV; December 2018: 1,350.5 mV), BW-04 (June 2018: 647.4 mV) and PZ-01



(June 2018: 706.2 mV). Elevated ORP values were also measured in June 2018 at unconsolidated monitoring well MW-03 (248.80 mV) and shallow bedrock wells BW-31 (327.8 mV) and BW-28 (256.2 mV). For comparison, the ORP value measured in September 2018 at the location upgradient to the site, BW-18, is 4 mV.

### 3.2.6.3 Chloride

During chemical oxidation of the CVOs (parent compounds transforming into daughter products) by permanganate, chloride is released into groundwater. Chloride is analyzed as an indicator parameter to evaluate the effectiveness of the ISCO remedy (ITRC, 2005).

The highest chloride concentrations onsite correspond with the highest concentrations of CVOs detected onsite. Concentrations of chloride detected onsite in the unconsolidated zone and deep bedrock zone are lower than those detected in shallow and intermediate bedrock zones. Elevated concentrations of chloride (2 to 10 times greater than the background concentrations [8.5 to 44 mg/L in wells MW-01, MW-13, BW-01, BW-18, BW-21, and BW-24-390']) occur at the following onsite locations:

- Northern portion of site: BW-28 (180 mg/L – adjacent to ISCO Area 1), BW-05 (510 mg/L – Adjacent to ISCO Area 3), and BW-16 (270 mg/L in June, 430 mg/L in December – within ISCO Area 7).
- Southern portion of site: BW-37 (420 mg/L – downgradient from ISCO Area 4).

### 3.2.6.4 ISCO Summary Statement

As demonstrated by the 2018 onsite well data, the oxidizing chemical permanganate is being effectively delivered as evidenced by its presence in many onsite monitoring well locations. Permanganate has persisted in onsite groundwater for 12 months since it was injected in December 2017, as it was still observed in December 2018. Elevated chloride concentrations and ORP values both indicate oxidizing conditions are present onsite in the zones affected by permanganate injection. The onsite well data indicate the oxidizing chemical persists for ongoing treatment of VOCs in groundwater at five ISCO injection areas (Areas 1, 2, 3, 5, and 7).



# Remedy Effectiveness

## 4.1 ISCO Effectiveness

ISCO treatment has been effective at decreasing VOC concentrations onsite since injection began in May 2004, as evidenced by the following:

- Decreased planar area of the highest total site-related VOC concentrations (greater than 10,000 and 100,000 µg/L – yellow and peach colors, respectively) between 2005 and 2018 (13 years) (Figure 3-3).
- Concentration trends for total site-related VOCs in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at onsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis.
- Concentration trends for individual CVOC parent compounds (PCE, TCE, 1,1,1-TCA, and methylene chloride) in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at onsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis with the exception of one onsite well (BW-16). Active treatment of groundwater in the vicinity of BW-16 is evidenced by the observation of permanganate at this well in June and December 2018.
- Concentration trends for individual CVOC daughter products of cis-1,2-DCE and vinyl chloride in onsite wells screened in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis with the exception of three onsite wells. The three onsite wells with at least one daughter product with an increasing trend (BW-23-50' for vinyl chloride; BW-27 for cis-1,2-DCE and vinyl chloride; and BW-37 for vinyl chloride) are accompanied by numerous indications of ongoing biodegradation:
- The onsite total site-related VOC mass is decreasing as evidenced by a decreasing trend observed between 2005 and 2018 (13 years); the mass values of individual CVOC parent compounds (PCE, TCE, 1,1,1-TCA, methylene chloride), CVOC daughter products (cis-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1-DCA, and 1,2-DCA), and aromatic compounds (toluene, ethylbenzene, and xylenes) have also decreased over the same time period.
- Effective delivery of the oxidizing chemical permanganate persisted in onsite groundwater for at least 12 months based on observations between the December 2017 injection and December 2018 sampling event.
- Elevated ORP readings (in comparison to background readings) at and downgradient from ISCO injection areas indicate oxidizing conditions due to the presence of permanganate in groundwater.
- Elevated chloride concentrations (2 to 10 times greater than background) in onsite wells indicate significant oxidation of CVOCs.

## 4.2 MNA Remedy Effectiveness

Multiple lines of evidence/MNA processes continue to effectively reduce offsite groundwater VOC concentrations in each of the monitored zones (shallow, intermediate, and deep bedrock, as well as the unconsolidated zone) as evidenced by the following:



- A reduced lateral extent of total VOC detections in 2018 as compared with the 2005 lateral extent and decreased total VOC concentrations during the same time period as evidenced by smaller planar areas encompassed by higher concentration contours (10,000 and 100,000 µg/L – yellow and peach colors, respectively) in Figure 3-3.
- Concentration trends for total site-related VOCs in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at onsite and offsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis.
- Concentration trends for individual CVOC parent compounds (PCE, TCE, 1,1,1-TCA, and methylene chloride) in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones at offsite locations: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis.
- Concentration trends for individual CVOC daughter products of cis-1,2-DCE and vinyl chloride in unconsolidated, shallow bedrock, intermediate bedrock, and deep bedrock groundwater zones: 1) are decreasing; 2) have no trend; or 3) are not detected frequently enough to perform statistical trend analysis, with the exception of one offsite location (BW-14) where increases in vinyl chloride concentrations are accompanied by numerous indications of ongoing reductive dechlorination.
- The onsite + offsite, total site-related VOC mass is decreasing as evidenced by a decreasing trend observed between 2005 and 2018 (13 years); the mass values of individual CVOC parent compounds (PCE, TCE, 1,1,1-TCA, methylene chloride), CVOC daughter products (cis-1,2-DCE, 1,1-DCE, vinyl chloride, 1,1-DCA, and 1,2-DCA), and aromatic compounds (toluene, ethylbenzene, and xylenes) have also decreased over the same time period.
- An increase in the total VOC mass contributed by CVOC daughter products during the 13-year period (more than 75 percent of the total mass contributed by CVOC daughter products in 2018 compared with 54 percent in 2005).
- Detection of biodegradation daughter products offsite including the predominance of CVOC daughter products versus parent compounds, the detection of the nontoxic end products ethene and ethane, and elevated chloride concentrations (2 to 10 times greater than background).
- Reducing conditions in wells offsite/downgradient from the site that are conducive for ongoing biodegradation of both CVOC parent compounds and daughter products as evidenced by field measurements, lack of nitrate, low sulfate, and/or the presence of methane.
- Ethene plus ethane molarity versus total molarity (total molarity is the sum of PCE, TCE, cis-1,2-DCE, vinyl chloride, ethene, and ethane) increasing with further distance downgradient from the site, reflecting a “more advanced” MNA process at the more distant locations.
- Conditions at perimeter well nest at BW-25/BW-26 indicating strong evidence of MNA effectiveness including reducing conditions, CVOC daughter product concentrations comprising over 99 percent of the total CVOC concentrations, elevated chloride concentrations (2 to 10 times background concentrations), and the detection of ethene, ethane, and methane in each of the nest’s bedrock zones (shallow, intermediate, and deep).
- Strong evidence of ongoing anaerobic biodegradation of CVOCs in shallow bedrock according to EPA screening protocol procedures (EPA, 1998).



## 4.3 Institutional Controls Inspection

ICs were implemented to limit the site to industrial use and an EC was established/recorded to prevent groundwater use and exposure. Activities that appear inconsistent with the objectives of the ICs or land use restrictions, or other actions that may interfere with the effectiveness of the ICs, were not observed during the 2018 site inspection.



# Summary and Recommendations

Onsite soil treatment, onsite groundwater treatment, and natural attenuation processes have resulted in decreases in the extent and magnitude of VOC concentrations in groundwater, and in the total VOC mass (in both the onsite well dataset and the onsite plus offsite well dataset) between 2005 and 2018. Furthermore, groundwater data continue to provide evidence that conditions are conducive for ongoing reductive dechlorination of CVOs, thereby supporting MNA as an effective offsite remedy.

## 5.1 Conceptual Site Model Updates

There are no updates to the physical characteristics of the CSM established in the OMMP using the 2018 data. The lateral extent of total VOCs detected in groundwater in 2018 is less than the 2005 lateral extent (Figure 3-3).

## 5.2 Monitoring Well Network Conditions

Site observations recorded in 2018 noted several site monitoring wells that require repairs, replacement, or redevelopment as follows:

- Four site monitoring wells (BW-02, BW-04, BW-09, and MW-07) require repairs.
- MW-13 was destroyed in October 2018 and needs to be abandoned and replaced.
- The well screens at BW-05 and BW-31 appear to be more than 10% occluded and need to be redeveloped.

In addition, the 2017 ARPR recommended abandoning and replacing injection well ISCO-IW02 (CH2M, 2018b) prior to the next injection event in 2019 and EPA requested monitoring well BW-27 be abandoned prior to initiating excavation activities (EPA, 2018). Excavation activities are planned for early 2019. Following excavation, BW-27 will be replaced with BW-27R.

## 5.3 Institutional Controls

There are no recommended changes to the ICP. The recorded EC will be used to prevent groundwater use and potential exposure.

## 5.4 ISCO Injection Program

As outlined in the ISCO Injection Plan (CH2M, 2014), an injection was not completed in 2018. Onsite well data indicate the oxidizing chemical persists for ongoing treatment of VOCs in groundwater at five of seven ISCO injection areas since the last injection in 2017. Elevated chloride concentrations and ORP values at and downgradient from onsite ISCO injection areas both indicate oxidizing conditions are present. A full-scale ISCO injection will next be completed in 2019 per the ISCO Injection Plan. As recommended in the 2017 ARPR, future injections, including during the 2019 field season, will be completed into ISCO Target Treatment Area 8 instead of ISCO Target Treatment Area 6.

## 5.5 Onsite Monitoring Well Sampling/Analysis

ISCO continues to effectively reduce the highest concentrations of total VOCs in groundwater as evidenced by the following:

- Large decreases in total VOC mass over time



- Decreased planar areas encompassed by each total VOC concentration contour (10 µg/L, 100 µg/L, 1,000 µg/L, 10,000 µg/L, and 100,000 µg/L or greater) over a 13-year period (Figure 3-3)
- Decreasing or no trends of total VOCs concentrations and individual parent compound concentrations (1,1,1-TCA, TCE, PCE, and methylene chloride) in shallow, intermediate, and deep bedrock zones and in the unconsolidated zone
- The detection of permanganate, elevated ORP readings, and elevated chloride concentrations in onsite wells

Annual sampling should be continued at the onsite wells as required per the LTMP. Semiannual sampling has previously been recommended at monitoring well BW-16 due to an increasing concentration trend for TCE that was noted in 2016. Sampling was attempted at this well in December 2017, June 2018, and December 2018, but because of the presence of permanganate a VOC sample could not be collected at this well during these events. Due to the persistence of permanganate at this well since December 2017, it is recommended that BW-16 continue to be sampled annually in June until permanganate is no longer observed at the well. After it is observed during a June sampling event that the permanganate has dissipated from this well, semiannual sampling will commence for a period of 2 years.

## 5.6 Offsite Monitoring Well Sampling/Analysis

MNA processes continue to effectively reduce offsite groundwater CVOC concentrations in each of the monitored zones (shallow, intermediate, and deep bedrock, as well as the unconsolidated zone) as evidenced by decreased overall total estimated VOC mass over time, a predominance of CVOC daughter product versus parent compounds, detection of nontoxic end products (ethene/ethane), the presence of reducing conditions that are amenable for ongoing reductive dechlorination of CVOCs, and elevated chloride concentrations indicating evidence of reductive dechlorination.

Because of the strong evidence in each zone, including at the perimeter well nest (BW-25/BW-26), no changes are recommended to the monitoring program at the LTMP offsite wells, and sampling should continue on an annual basis.

## 5.7 Work to Be Performed in 2019

The following work will be performed in 2019:

- Remediate two hot spot areas identified in the *Soil Excavation Work Plan* (CH2M, 2018a) to further enhance the effectiveness of the onsite groundwater remedy. Soil from both hot spot areas will be excavated and disposed offsite per work plan recommendations. An oxidant will also be applied at the bottom of the northern excavation area prior to backfilling the excavation with clean fill material (CH2M, 2018a). Excavation activities will be documented in a separate technical memorandum.
- Plan for and complete a targeted pilot study using an alternate oxidant(s) to reduce 1,1,1-TCA groundwater concentrations (and concentrations of other VOCs) in the northern portion of the site. (The alternate oxidant injection is planned for 2019; although not required per the AOC a work plan will be submitted to EPA describing this proactive activity). This targeted pilot study will include the installation of an additional injection well located near BW-27.
- An ISCO injection event will be completed in 2019, as indicated in the ISCO Injection Plan. As previously recommended in the 2017 ARPR (CH2M, 2018b), future injections, including those implemented during the 2019 field season, be completed into ISCO Target Treatment Area 8 instead of ISCO Target Treatment Area 6. Following the alternate oxidant injection in 2019, a recommendation to EPA may be made to change the oxidant used in future injections.



- Repair monitoring wells BW-02, BW-04, BW-09, and MW-07; abandon and replace MW-13 and BW-27; replace ISCO-IW02; and redevelop BW-31 and BW-05.
- Continue implementation of the long-term groundwater monitoring program for both onsite and offsite wells as identified in the EPA-approved LTMP. LTMP wells will be sampled annually in June except for BW-16, which will also be sampled in December if permanganate is not present during the June sampling event.
- Complete an inspection noting the conditions of the monitoring well network in June 2019, concurrent with the annual groundwater monitoring event.
- Perform the annual IC inspection in June 2019, concurrent with the annual groundwater monitoring event, per the OMMP and the ICP.
- Complete an administrative review of the EC documents (property deeds and/or land zoning-related) in June 2019 during the IC inspection.
- Develop the 2019 ARPR using 2019 annual groundwater analytical data, submitting to EPA on or before March 1, 2020.



# References

- CH2M HILL Engineers, Inc. (CH2M). 2004. *Remedial Alternatives Study Report, 2040 West River Drive, Davenport, Iowa*. Prepared for T. H. Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. Submitted to the U.S. Environmental Protection Agency. August.
- CH2M HILL Engineers, Inc. (CH2M). 2005. *Addendum 1, Remedial Alternatives Study Report, 2040 West River Drive, Davenport, Iowa*. Prepared for T. H. Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. Submitted to the U.S. Environmental Protection Agency. July.
- CH2M HILL Engineers, Inc. (CH2M). 2006. *Completion Memorandum for Soil Treatment Activities at 2040 West River Drive, Davenport, Iowa*. Technical Memorandum. Prepared for T. H. Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc., and Harcros Chemicals, Inc. Submitted to the U.S. Environmental Protection Agency. October 31.
- CH2M HILL Engineers, Inc. (CH2M). 2014. *Operation, Monitoring, and Maintenance Plan, 2040 West River Drive, Davenport, Iowa*. Prepared for T. H. Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. Submitted to the U.S. Environmental Protection Agency. June.
- CH2M HILL Engineers, Inc. (CH2M). 2017a. *Corrective Measures Performance Evaluation Report, 2040 West River Drive, Davenport, Iowa*. Prepared for T. H. Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. Submitted to the U.S. Environmental Protection Agency. May 26.
- CH2M HILL Engineers, Inc. (CH2M). 2017b. *Injection Wells Installation, June 2017; 2040 West River Drive, Davenport, Iowa; EPA Docket No. RCRA-07-2012-0013*. July 14.
- CH2M HILL Engineers, Inc. (CH2M). 2017c. *Membrane interface Probe Evaluation Report, 2010 West River Drive, Davenport, Iowa*. Prepared for T H Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcros Chemicals Inc. Submitted to the U.S. Environmental Protection Agency. September.
- CH2M HILL Engineers, Inc. (CH2M). 2018a. *Soil Excavation Work Plan; 2040 West River Drive, Davenport, Iowa; EPA Docket No. RCRA-07-2012-0013*. October.
- CH2M HILL Engineers, Inc. (CH2M). 2018b. *2017 Annual Remedy Performance Report, 2040 West River Drive, Davenport, Iowa*. Prepared for T. H. Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. Submitted to the U.S. Environmental Protection Agency. February.
- Gilbert, R. O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley and Sons, Inc. New York.
- Interstate Technology Regulatory Council (ITRC). 2005. *Technical and Regulatory Guidance for In Situ Chemical Oxidation of Contaminated Soil and Groundwater*. January.
- U.S. Environmental Protection Agency (EPA). 1998. *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water*. EPA/600/R-98/128. September.
- U.S. Environmental Protection Agency (EPA). 2002. *Groundwater Sampling Guidelines for Superfund and RCRA Project Managers*. Groundwater Forum Issue Paper, Technology Innovation Office; Office of Solid Waste and Emergency Response. EPA 542-S-02-001. May.
- U.S. Environmental Protection Agency (EPA). 2010. *Final Decision and Response to Comments on Proposed Groundwater Corrective Action Remedy for the Harcros Chemicals Site, Davenport, Iowa*. EPA ID#: IAD022100671. September.



## SECTION 6 – REFERENCES

U.S. Environmental Protection Agency (EPA). 2018. *RE: Soil Excavation Work Plan, Harcross Chemicals, 2040 West River Drive, Davenport, Iowa*. EPA ID#: IAD022100671. September.



Tables



Table 1-1. Operation, Monitoring, and Maintenance of Corrective Measures

THAN Davenport Site, 2040 West River Drive

Corrective Measure	Targeted Medium	Objectives	Summary of Operation, Monitoring, and Maintenance Activities	Summary of Data Evaluations and Reporting Requirements per OMMP	Reference for Additional Details
ISCO	Onsite groundwater	The objective is to restore onsite groundwater to established EPA MCLs or RSLs for constituents that do not have an established MCL.	Performance groundwater monitoring to collect COC, geochemical, and permanganate data.	<p>Data will be evaluated annually to review trends over time with respect to site-related constituent mass and individual constituent concentrations and the effectiveness of the onsite ISCO corrective measure.</p> <p>A steady-state evaluation of consistent concentrations in groundwater will be conducted once all of the chemical oxidant solution has been consumed, based upon visual evidence of persisting permanganate (purple color) in the groundwater. The steady-state evaluation will include a review of the groundwater remedy implementation to determine if injection of additional oxidant solution, or selection of a new groundwater remedy, would most efficiently reduce groundwater VOC concentrations.</p>	Appendix C of the OMMP (CH2M, 2014)
MNA	Offsite groundwater	The objective is to restore offsite groundwater to established EPA MCLs or RSLs for constituents that do not have an established MCL.	Performance groundwater monitoring to collect hydraulic, COC, and geochemical data.	Data will be evaluated to review trends over time with respect to constituent mass and individual constituent concentrations, and the nature and extent of constituents in groundwater, to ensure that site-related COCs are not migrating into previously unaffected areas, verify that the geochemical and geologic conditions are still favorable for natural attenuation, and evaluate EISB contingency triggers.	Appendix A of the OMMP (CH2M, 2014)
EISB (if needed)	Offsite groundwater	If triggered, the objective of EISB is the addition of amendments to the groundwater to enhance the ability of natural attenuation to remediate site-related constituents and restore offsite groundwater to established EPA MCLs or RSLs for constituents that do not have an established MCL.	Pre-design activities (bench- and pilot-scale studies) to assess the biological community, evaluate substrates, and develop optimal operation and monitoring for full-scale implementation.	Full-scale EISB performance data will be developed based on the results of the bench- and pilot-scale testing.	Appendix B of the OMMP (CH2M, 2014)
ICs	Onsite groundwater	The objective is to restrict groundwater use and exposure to site-related COCs in the onsite groundwater.	Annual visual site inspection to document current land use, visual evidence of construction and/or demolition activities, excavation activities, waste generation/exposure, drilling activities, and/or activities inconsistent with the ICs presented in the ICP.	Results of the visual inspection will be recorded on the IC Visual Inspection Form and will be submitted to EPA as an attachment to the ARPR.	Appendix F of the OMMP (CH2M, 2014)

Notes:  
ARPR = Annual Remedy Performance Report  
COC = constituent of concern  
EISB = enhanced in situ bioremediation  
EPA = U.S. Environmental Protection Agency  
IC = institutional control  
ICP = Institutional Control Plan  
ISCO = in situ chemical oxidation  
MCL = maximum contaminant level  
MNA = monitored natural attenuation  
OMMP = Operation, Monitoring, and Maintenance Plan  
RSL = regional screening level  
VOC = volatile organic compound  
CH2M HILL Engineers, Inc. (CH2M). 2014. *Operation, Monitoring, and Maintenance Plan, 2040 West River Drive, Davenport, Iowa* . Prepared for T H Agriculture & Nutrition, L.L.C.; Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. Submitted to the U.S. Environmental Protection Agency. June.



Table 2-1. Monitoring Well Construction Data and 2018 Groundwater Elevations  
and Percent Occlusion Calculations  
THAN Davenport Site, 2040 West River Drive

Initial												June 2018					
Location	Well Screen Zone	Northing <sup>a</sup>	Easting <sup>a</sup>	Top of Casing Elevation (ft amsl)	Ground Elevation (ft amsl)	Bedrock Elevation (ft amsl)	Depth to Bedrock (ft bgs)	Top of Screened Interval (ft bgs)	Bottom of Screened Interval (ft bgs)	Measured Depth to Bottom (ft btoc)	Initial Measured Depth to Bottom Elevation (ft amsl)	Date of Initial Depth to Bottom Measurement	June 2018 Depth to Water (ft btoc)	June 2018 GW Elevation (ft amsl)	June 2018 Depth to Bottom (ft btoc)	Depth to Bottom Elevation (ft amsl)	Percent Occlusion <sup>e</sup>
BW-01	Shallow Bedrock	564513.82	2433591.82	570.62	567.60	556.60	11.00	21	31	34.15	536.47	Nov. 1999	11.25	559.37	34.10	536.52	-0.5
BW-02	Shallow Bedrock	564391.85	2432992.81	570.25	567.20	562.20	5.00	11	21	24.01	546.24	Nov. 2001	4.21	566.04	23.95	546.30	-0.6
BW-03/BW03R <sup>b</sup>	Shallow Bedrock	563949.50	2433435.51	565.48	562.50	558.00	4.50	15	25	28.16	537.32	June 2013	5.76	559.72	27.98	537.50	-1.8
BW-04	Shallow Bedrock	564605.13	2433005.40	571.84	569.20	564.20	5.00	21	31	33.82	538.02	Nov. 1999	5.22	566.62	33.77	538.07	-0.5
BW-05	Shallow Bedrock	564330.34	2433163.47	571.33	568.70	563.70	5.00	8.5	18.5	20.90	550.43	Nov. 1999	5.09	566.24	18.46	552.87	-24.4
BW-06	Shallow Bedrock	564085.02	2433419.09	563.97	564.50	561.51	2.99	13.49	23.49	22.79	541.18	Nov. 2001	2.30	561.67	22.57	541.40	-2.2
BW-09	Shallow Bedrock	564118.81	2432834.46	565.52	562.75	549.75	13.00	18	28	30.26	535.26	(see note h)	3.91	561.61	30.25	535.27	-0.1
BW-11	Shallow Bedrock	563530.52	2433085.63	561.41	561.70	551.70	10.00	17	27	26.81	534.60	Nov. 2001	4.92	556.49	26.75	534.66	-0.6
BW-12	Intermediate Bedrock	564327.28	2433195.78	572.34	569.44	561.44	8.00	94	104	106.70	465.64	Aug. 2002	17.38	554.96	106.78	465.56	0.8
BW-13	Shallow Bedrock	563827.09	2433831.29	566.65	563.36	539.36	24.00	27	32	35.08	531.57	Nov. 2001	11.46	555.19	35.04	531.61	-0.8
BW-14	Shallow Bedrock	564021.00	2433617.01	568.24	565.20	556.20	9.00	28	38	40.12	528.12	Nov. 2001	12.38	555.86	40.08	528.16	-0.4
BW-15	Shallow Bedrock	564299.92	2433688.61	567.02	563.94	555.94	8.00	18	28	31.21	535.81	Nov. 2001	12.04	554.98	31.19	535.83	-0.2
BW-16	Shallow Bedrock	564501.09	2433167.21	571.42	568.78	563.78	5.00	22.5	32.5	33.84	537.58	Nov. 2001	4.48	566.94	33.45	537.97	-3.9
BW-18 <sup>g</sup>	Shallow Bedrock	564720.58	2432737.13	575.70	575.73	565.73	10.00	32	42	41.74	533.96	Aug. 2002	3.97	571.73	41.73	533.97	-0.1
BW-19	Shallow Bedrock	563597.78	2433612.73	561.93	558.78	533.78	25.00	26.5	36.5	39.57	522.36	Nov. 2001	7.39	554.54	40.20	521.73	6.3
BW-21	Intermediate Bedrock	563592.50	2433610.93	562.06	559.03	534.03	25.00	140	150	154.75	407.31	Aug. 2002	7.11	554.95	153.97	408.09	-7.8
BW-22	Intermediate Bedrock	563760.29	2433803.22	565.19	562.40	537.40	25.00	139	149	151.05	414.14	Aug. 2002	10.29	554.90	151.11	414.08	0.6
BW-23-50'	Shallow Bedrock	563966.97	2433437.50	565.74	562.86	--	--	50	60	--	--	--	8.15	557.59	--	--	--
BW-23-90'	Intermediate Bedrock	563966.97	2433437.50	565.75	562.86	--	--	90	100	--	--	--	10.72	555.03	--	--	--
BW-23-125'	Intermediate Bedrock	563966.97	2433437.50	565.74	562.86	--	--	125	135	--	--	--	10.66	555.08	--	--	--
BW-23-200'	Intermediate Bedrock	563966.97	2433437.50	565.76	562.86	--	--	200	210	--	--	--	10.68	555.08	--	--	--
BW-23-290'	Deep Bedrock	563966.97	2433437.50	565.77	562.86	--	--	290	300	--	--	--	10.71	555.06	--	--	--
BW-23-390'	Deep Bedrock	563966.97	2433437.50	565.78	562.86	--	--	390	400	--	--	--	10.83	554.95	--	--	--
BW-24-175'	Intermediate Bedrock	563594.72	2433593.15	562.63	559.32	--	--	175	185	--	--	--	7.64	554.99	--	--	--
BW-24-230'	Intermediate Bedrock	563594.72	2433593.15	562.63	559.32	--	--	230	240	--	--	--	7.44	555.19	--	--	--
BW-24-290'	Deep Bedrock	563594.72	2433593.15	562.63	559.32	--	--	290	300	--	--	--	7.41	555.22	--	--	--
BW-24-390'	Deep Bedrock	563594.72	2433593.15	562.63	559.32	--	--	390	400	--	--	--	7.49	555.14	--	--	--
BW-25	Shallow Bedrock	564120.15	2433809.18	566.28	564.08	--	--	28	38	40.43	525.85	Mar. 2003	11.79	554.49	40.43	525.85	0.0
BW-26-65'	Intermediate Bedrock	564140.30	2433802.70	567.08	564.81	538.81	26.00	65	75	--	--	--	12.12	554.96	--	--	--
BW-26-85'	Intermediate Bedrock	564140.30	2433802.70	567.13	564.81	538.81	26.00	85	95	--	--	--	12.30	554.83	--	--	--
BW-26-205'	Intermediate Bedrock	564140.30	2433802.70	567.28	564.81	538.81	26.00	205	215	--	--	--	12.27	555.01	--	--	--
BW-26-295'	Deep Bedrock	564140.30	2433802.70	567.18	564.81	538.81	26.00	295	305	--	--	--	12.26	554.92	--	--	--
BW-26-395'	Deep Bedrock	564140.30	2433802.70	567.08	564.81	538.81	26.00	395	405	--	--	--	12.20	554.88	--	--	--
BW-27 <sup>c</sup>	Shallow Bedrock	564585.73	2433063.22	570.68	--	--	10.00	15.5	40.5	40.45	530.23	June 2012	4.62	566.06	40.44	530.24	0.0
BW-28 <sup>c</sup>	Shallow Bedrock	564530.58	2433045.02	569.41	--	--	9.00	15.5	40.5	40.38	529.03	June 2011	3.20	566.21	40.39	529.02	0.0
BW-29 <sup>c</sup>	Shallow Bedrock	564490.71	2433097.03	569.50	--	--	8.00	11.5	36.5	36.70	532.80	June 2011	3.46	566.04	36.71	532.79	0.0
BW-30 <sup>c</sup>	Shallow Bedrock	564430.74	2433096.92	570.17	--	--	8.50	11.5	36.5	36.80	533.37	June 2011	3.64	566.53	36.61	533.56	-0.8
BW-31 <sup>c</sup>	Shallow Bedrock	564406.92	2433145.30	571.61	--	--	9.00	12	37	36.20	535.41	June 2011	5.01	566.60	36.34	535.27	0.6
BW-32 <sup>c</sup>	Shallow Bedrock	564436.96	2433206.83	570.13	--	--	8.00	12	37	32.00	538.13	June 2011	4.11	566.02	32.05	538.08	0.2
BW-33 <sup>c</sup>	Shallow Bedrock	564375.45	2433210.78	571.49	--	--	10.50	11	36	35.83	535.66	June 2011	5.22	566.27	33.01	538.48	-11.3
BW-34 <sup>c</sup>	Shallow Bedrock	564376.95	2433247.49	570.02	--	--	8.50	12	37	37.23	532.79	June 2011	4.05	565.97	37.24	532.78	0.0
BW-35 <sup>c</sup>	Shallow Bedrock	564065.95	2433340.90	568.05	--	--	7.00	9.5	34.5	34.88	533.17	June 2011	4.83	563.22	34.86	533.19	-0.1
BW-36 <sup>c</sup>	Shallow Bedrock	564054.77	2433393.60	567.28	--	--	7.00	9.5	34.5	34.30	532.98	June 2011	5.20	562.08	34.30	532.98	0.0
BW-37 <sup>c</sup>	Shallow Bedrock	564017.16	2433410.95	564.93	--	--	4.50	9.5	34.5	34.65	530.28	June 2011	5.78	559.15	34.69	530.24	0.2
ISCO-IW01	Shallow Bedrock	564513.66	2433161.68	570.70	--	--	5.50	20.0	30.0	--	--	--	--	--	--	--	--
ISCO-IW02	Shallow Bedrock	564507.97	2433161.67	570.77	--	--	5.50	8	18	--	--	--	--	--	--	--	--
ISCO-IW03	Shallow Bedrock	564547.65	2433078.42	--	--	--	13.50	29.5	39.5	--	--	--	--	--	--	--	--
ISCO-IW04	Shallow Bedrock	564549.18	2433082.88	--	--	--	10.00	16.5	26.5	--	--	--	--	--	--	--	--
ISCO-IW05	Shallow Bedrock	564444.08	2433130.83	--	--	--	8.50	24.5	34.5	--	--	--	--	--	--	--	--
ISCO-IW06	Shallow Bedrock	564446.00	2433134.76	--	--	--	8.50	12	22	--	--	--	--	--	--	--	--
ISCO-IW07	Shallow Bedrock	564376.22	2433170.59	--	--	--	8.50	22	32	--	--	--	--	--	--	--	--
ISCO-IW08	Shallow Bedrock	564377.76	2433173.60	--	--	--	8.80	11.8	21.8	--	--	--	--	--	--	--	--



Table 2-1. Monitoring Well Construction Data and 2018 Groundwater Elevations and Percent Occlusion Calculations  
THAN Davenport Site, 2040 West River Drive

Location	Well Screen Zone	Northing <sup>a</sup>	Easting <sup>a</sup>	Top of Casing Elevation (ft amsl)	Ground Elevation (ft amsl)	Bedrock Elevation (ft amsl)	Depth to Bedrock (ft bgs)	Top of Screened Interval (ft bgs)	Bottom of Screened Interval (ft bgs)	Initial	Initial Measured Depth to Bottom Elevation (ft amsl)	Date of Initial Depth to Bottom Measurement	June 2018	June 2018 GW Elevation (ft amsl)	June 2018 Depth to Bottom (ft btoc)	June 2018 Depth to Bottom Elevation (ft amsl)	Percent Occlusion <sup>e</sup>
										Measured Depth to Bottom (ft btoc)			Depth to Water (ft btoc)				
ISCO-IW09	Shallow Bedrock	564088.17	2433376.87	567.64	--	--	5.50	23.5	33.5	--	--	--	--	--	--	--	--
ISCO-IW10	Shallow Bedrock	564090.73	2433381.38	567.33	--	--	6.00	10.5	20.5	--	--	--	--	--	--	--	--
ISCO-IW11	Shallow Bedrock	563994.12	2433386.18	566.28	566.60	561.60	5.00	20	30	--	--	--	--	--	--	--	--
ISCO-IW12	Shallow Bedrock	563991.90	2433387.64	565.91	566.20	561.20	5.00	8	18	--	--	--	--	--	--	--	--
ISCO-IW13	Shallow Bedrock	564620.39	2433014.96	570.45	570.60	564.10	6.50	21.5	31.5	--	--	--	--	--	--	--	--
ISCO-IW14	Shallow Bedrock	564622.08	2433012.90	570.36	570.40	563.90	6.50	9.5	19.5	--	--	--	--	--	--	--	--
ISCO-IW15 <sup>d</sup>	Shallow Bedrock	563955.49	2433433.46	--	--	--	8	11	21	--	--	--	--	--	--	--	--
ISCO-IW16 <sup>d</sup>	Shallow Bedrock	563954.08	2433438.10	--	--	--	8	24	34	--	--	--	--	--	--	--	--
ISCO-PZ-01	Shallow Bedrock	564499.32	2433139.64	571.34	569.12	563.12	6.00	9	34	36.44	534.90	June 2004	5.13	566.21	36.23	535.11	-0.8
ISCO-PZ-03	Shallow Bedrock	564487.13	2433176.87	570.65	568.42	562.92	5.50	10	35	37.27	533.38	June 2004	4.56	566.09	37.05	533.60	-0.9
ISCO-PZ-04	Shallow Bedrock	564467.03	2433178.93	570.96	569.07	563.57	5.50	10	35	37.24	533.72	June 2004	4.92	566.04	37.29	533.67	0.2
MW-01	Unconsolidated	564518.17	2433591.89	570.35	567.10	556.10	11.00	4	11	14.67	555.68	Nov. 1999	10.94	559.41	14.65	555.70	-0.3
MW-03	Unconsolidated	564495.82	2433168.16	570.64	568.70	563.70	5.00	2.5	5	7.37	563.27	Nov. 1999	4.74	565.90	7.35	563.29	-0.8
MW-04	Unconsolidated	564605.68	2433001.82	571.36	569.00	564.00	5.00	2.5	5	7.55	563.81	Nov. 1999	5.60	565.76	7.53	563.83	-0.8
MW-05	Unconsolidated	563943.68	2433434.87	565.90	562.40	557.90	4.50	2	5	8.22	557.68	Nov. 1999	6.00	559.90	8.00	557.90	-7.3
MW-06	Unconsolidated	564043.14	2433328.00	570.15	567.50	561.50	6.00	3.5	6	8.60	561.55	Nov. 1999	6.78	563.37	8.58	561.57	-0.8
MW-07	Unconsolidated	564395.69	2432997.42	570.31	567.20	562.20	5.00	2	5	8.24	562.07	Nov. 2001	4.75	565.56	8.18	562.13	-2.0
MW-08	Unconsolidated	564334.75	2433160.82	571.36	568.70	563.70	5.00	2	5	8.22	563.14	Nov. 1999	4.19	567.17	8.21	563.15	-0.3
MW-13 <sup>f</sup>	Unconsolidated	564131.46	2432825.89	565.74	563.00	549.00	14.00	9	14	16.73	549.01	Nov. 2001	4.78	560.96	16.67	549.07	-1.2
MW-17	Unconsolidated	563525.62	2433088.63	561.17	561.73	551.73	10.00	6	10	8.66	552.51	Aug. 2002	5.10	556.07	8.65	552.52	-0.2
MW-18	Unconsolidated	564424.45	2434026.62	565.57	562.80	510.80	52.00	42	52	55.00	510.57	Nov. 2001	10.21	555.36	55.66	509.91	6.6
MW-19	Unconsolidated	564423.92	2434031.79	565.51	562.39	510.39	52.00	5	15	18.34	547.17	Nov. 2001	11.00	554.51	18.19	547.32	-1.5
MW-20 <sup>g</sup>	Unconsolidated	564726.35	2432741.78	576.13	576.16	569.36	6.80	5	7	6.85	569.28	June 2003	1.80	574.33	6.76	569.37	-4.5
PT-01	Shallow Bedrock	564330.25	2433189.48	571.33	569.30	563.80	5.50	8.00	35.50	40.16	531.17	Nov. 2001	5.10	566.23	39.20	532.13	-3.5
PZ-01	Shallow Bedrock	564332.63	2433195.64	572.31	569.24	563.74	5.50	40	50	53.44	518.87	Aug. 2002	8.43	563.88	53.39	518.92	-0.5
PZ-02	Intermediate Bedrock	564332.74	2433195.60	572.33	569.24	563.74	5.50	60	70	73.01	499.32	Aug. 2002	14.37	557.96	73.00	499.33	-0.1

Notes:

<sup>a</sup>NAD83 Iowa State Plane South, US Survey Feet.

<sup>b</sup>Well BW-03 was abandoned on December 4, 2012 due to damage. A replacement well for BW-03 (BW-03R) was installed between December 4 and 6, 2012, approximately 5 feet to the northeast of well BW-03. Survey coordinates presented in this table are for BW-03R.

<sup>c</sup>Ground surface elevations are unavailable for monitoring wells BW-27 through BW-37. Because these are flush-mount wells, the ground surface elevation is assumed to equal the top of casing elevation for the bottom of screened interval elevation calculations.

<sup>d</sup>Injection well installed in June 2017, survey information is unavailable.

<sup>e</sup>Percent occlusion is calculated using the initial measured well depth (June 2017 measured well depth)/screen length. Negative values indicate occlusion of the well screen; positive values indicate the June 2017 measured depth is greater than initial measured well depth.

<sup>f</sup>Monitoring well MW-13 was destroyed in October 2018. This well is proposed to be replaced prior to June 2019 sampling activities.

<sup>g</sup>Access was not granted to this well in June 2018; therefore, groundwater level measurements were collected when access was received on September 13, 2018.

<sup>h</sup>The original depth to measurement was collected at BW-06 (stickup) was 25.75 ft btoc. Since this well was converted to a flushmount, the original depth to bottom measurement has been adjusted by 2.96 feet to 22.79 feet btoc, which corresponds to the difference between the stickup TOC elevation (566.93 ft amsl) and flush-mount TOC elevation (563.97 ft amsl).

-- indicates the data are not available

ft amsl = feet above mean sea level

ft bgs = feet below ground surface

ft btoc = feet below top of casing

Groundwater level and total depth measurements were collected between June 11 and 12, 2018, unless otherwise noted.



**TABLE 2-2. 2018 Investigation Derived Waste Streams and Disposal Summary**

*THAN Davenport Site, 2040 West River Drive*

Date(s) Generated	Field Event	Waste Stream Description	Quantity of Waste	Manifest or Bill of Lading	
				Tracking Number	Transportation and Disposal Summary
December 2017	December 2017 Sampling/ Rock Core Disposal	Nonhazardous rock cores and debris (rock core boxes) generated during historical site investigations conducted between 2001 and 2004. See Note 1.	Two 55-gallon containers	011169356FLE	In April 2018, the waste was transported by Clean Harbors Environmental Services (CHES) and properly managed at Spring Grove Resource Recovery, Inc., a Cincinnati, Ohio facility.
December 2017	December 2017 Sampling/ Rock Core Disposal	Nonhazardous rock cores and debris (rock core boxes) generated during historical site investigations conducted between 2001 and 2004. See Note 1.	Two 1 cubic yard containers and one 55-gallon container	011926990FLE	In June 2018, the waste was transported by Clean Harbors Environmental Services (CHES) and properly managed at Spring Grove Resource Recovery, Inc., a Cincinnati, Ohio facility.
April 2018	April 2018 Soil Sampling	Nonhazardous personal protective equipment, disposable sampling equipment and nonhazardous soil generated during soil sampling	One 55-gallon container	011926990FLE	In June 2018, the waste was transported by Clean Harbors Environmental Services (CHES) and properly managed at Spring Grove Resource Recovery, Inc., a Cincinnati, Ohio facility.
April 2018	April 2018 Soil Sampling	Nonhazardous equipment decontamination water.	One 55-gallon container	011926992FLE	In June 2018, the waste was transported by Clean Harbors Environmental Services (CHES), and properly disposed of at the Clean Harbors, Cleveland, Ohio facility.
June 2018	June 2018 Annual Groundwater Sampling	Characteristically hazardous purge water, which carried the Resource Conservation and Recovery Act (RCRA) waste codes D029, D039, D040 and D043.	Two 55-gallon containers	011926991FLE	In June 2018, the waste was transported by Clean Harbors Environmental Services (CHES), and properly disposed of at the Clean Harbors, Kimball, Nebraska facility.
June 2018	June 2018 Annual Groundwater Sampling	Characteristically hazardous personal protective equipment and disposable sampling equipment which carried the RCRA waste codes D029, D039, D040 and D043,	One 55-gallon container	011926990FLE	In June 2018, the waste was transported by Clean Harbors Environmental Services (CHES) and properly managed at Spring Grove Resource Recovery, Inc., a Cincinnati, Ohio facility.
June 2018	June 2018 Annual Groundwater Sampling	Nonhazardous groundwater purge water.	One 55-gallon container	BOL1134153	In September 2018, the waste was transported by Clean Harbors Environmental Services (CHES), and properly disposed of at the Clean Harbors, Cleveland, Ohio facility.
July 2018	Soil Sampling and Groundwater Re-Sampling	Characteristically hazardous purge water and decontamination water generated during soil sampling, which carried the Resource Conservation and Recovery Act (RCRA) waste codes D029, D039, D040 and D043.	One 55-gallon container	011927252FLE	In July 2018, the waste was transported by Clean Harbors Environmental Services (CHES), and properly disposed of at the Clean Harbors, Kimball, Nebraska facility.
July 2018	Soil Sampling and Groundwater Re-Sampling	Nonhazardous personal protective equipment, disposable sampling equipment and nonhazardous soil generated during soil sampling	One 55-gallon container	BOL1134154	In September 2018, the waste was transported by Clean Harbors Environmental Services (CHES) and properly managed at Spring Grove Resource Recovery, Inc., a Cincinnati, Ohio facility.
September 2018	Groundwater Re-Sampling	Characteristically hazardous purge water and disposable sampling equipment, which carried the RCRA waste codes D029, D039, D040 and D043.	One 55-gallon container	011918532FLE	In September 2018, the waste was transported by Clean Harbors Environmental Services (CHES), and properly disposed of at the Clean Harbors, Kimball, Nebraska facility.



**TABLE 2-2. 2018 Investigation Derived Waste Streams and Disposal Summary**

*THAN Davenport Site, 2040 West River Drive*

				Manifest or Bill of Lading	
Date(s) Generated	Field Event	Waste Stream Description	Quantity of Waste	Tracking Number	Transportation and Disposal Summary
December 2018	December 2018 Semi-annual Groundwater Sampling	Characteristically hazardous purge water, which carried the RCRA waste codes D029, D039, D040 and D043.	One 5-gallon container	128732274FLE	In December 2018, the waste was transported by Clean Harbors Environmental Services (CHES), and properly disposed of at the Clean Harbors, Kimball, Nebraska facility.

Note:

In an email dated October 31, 2017, EPA provided concurrence that the rock cores stored onsite from historical site investigations could be disposed of in accordance with the site's Waste Handling Plan.



Table 3-1. Groundwater Field Parameter Measurements – 2018

THAN Davenport Site, 2040 West River Drive

Well ID	Sampling Event	Temp (°C)	Specific Conductance (µS/cm <sup>a</sup> )	Conductivity (µS/cm)	pH (SU)	Dissolved Oxygen (mg/L) <sup>a</sup>	Dissolved Oxygen (Percent) <sup>a</sup>	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Field Spectrophotometer Readings (mg/L) <sup>b,c</sup>
BW-01	June 2018	19.59	837	750	6.79	1.37	15	205.7	16.7	--
BW-02	June 2018	16.88	1219	1030	6.5	0.55	5.5	61.8	2.4	--
BW-02	July 2018	20.22	1799	1634	7.04	0.38	4.2	-24.6	28.3	--
BW-03R	June 2018	17.52	1241	1072	6.85	0.23	2.4	181.7	26.6	0.0 (visibly clear)
BW-04	June 2018	14.74	1256	1010	9.55	--	--	647.4	169.8	9,696 (visibly purple)
BW-05	June 2018	19.14	2947	2617	6.51	0.4	4.4	157.8	70.9	6.5 (visibly orange)
BW-06	June 2018	16.66	1376	1150	6.8	0.13	1.2	-95.4	0.5	0.0 (visibly clear)
BW-09	June 2018	17.36	1322	1129	6.66	0.38	3.9	-83.1	1.6	--
BW-09	September 2018	17.31	1835	1565	6.44	0.4	4.2	-127.3	0.9	--
BW-11	June 2018	18.09	1184	1028	7.04	0.47	5	70.6	7	--
BW-13	June 2018	16.41	1478	1235	6.83	0.13	1.3	-90.7	2	--
BW-14	June 2018	17.48	2383	2041	6.22	0.37	3.9	-149.3	3.9	--
BW-14	July 2018	18.4	2998	2560	6.6	0.18	1.9	-225	0	--
BW-14	September 2018	18.1	5611	4878	6.41	0.35	3.8	-159.7	2.7	--
BW-15	June 2018	16.82	1275	1076	6.81	0.3	3	9.1	1.4	--
BW-16	June 2018	13.57	1801	1410	7.26	--	--	712.1	58.8	9,696 (visibly purple)
BW-16	December 2018	13.34	26300	20450	7.00	--	--	1350.3	926.6	15,880 (visibly purple)
BW-18	September 2018	14.15	1074	862	6.95	0.54	5.3	4	0.0	--
BW-19	June 2018	15.87	772	637	7.14	0.27	2.8	-73.1	3	--
BW-21	June 2018	15.39	509	416	6.7	2.97	29.7	190.8	1	--
BW-23-50'	June 2018	--	--	--	--	--	--	--	--	0.0 (visibly clear)
BW-23-125'	June 2018	--	--	--	--	--	--	--	--	0.0 (visibly clear)
BW-23-390'	June 2018	--	--	--	--	--	--	--	--	0.0 (visibly clear)
BW-24-390'	June 2018	--	--	--	--	--	--	--	--	--
BW-25	June 2018	16.1	1554	1256	6.80	0.36	3.7	-63.1	1	--
BW-26-65'	June 2018	--	--	--	--	--	--	--	--	--
BW-26-65'	September 2018	--	--	--	--	--	--	--	--	--
BW-26-85'	June 2018	--	--	--	--	--	--	--	--	--
BW-26-85'	September 2018	--	--	--	--	--	--	--	--	--
BW-26-395'	June 2018	--	--	--	--	--	--	--	--	--
BW-26-395'	September 2018	--	--	--	--	--	--	--	--	--
BW-27	June 2018	14.84	1493	1203	6.83	0.38	3.8	-159.9	6.40	2.9 (visibly clear)
BW-28	June 2018	14.34	2652	2111	6.97	0.51	4.9	248.80	9.6	0.0 (visibly clear)
BW-31	June 2018	14.46	1566	1251	6.75	0.89	8.6	327.8	2.2	0.0 (visibly clear)
BW-33	June 2018	17.81	2538	2190	6.20	0.49	5.0	135.5	249.9	6.4 (visibly orange)
BW-34	June 2018	16.22	1161	967	6.05	0.44	4.5	-18.8	0.0	0.0 (visibly clear)
BW-34	September 2018	16.38	1385	1158	6.37	0.52	5.3	-74.4	0.0	0.0 (visibly clear)
BW-35	June 2018	16.88	816	689	6.94	0.27	2.7	-83.3	0.8	0.0 (visibly clear)
BW-37	June 2018	18.83	2357	2080	6.24	0.03	0.3	-284.5	3.5	0.0 (visibly clear)
BW-37	September 2018	18.5	2470	2150	5.77	0.30	3.2	-299.6	15.1	0.0 (visibly clear)



**Table 3-1. Groundwater Field Parameter Measurements – 2018**

THAN Davenport Site, 2040 West River Drive

Well ID	Sampling Event	Temp (°C)	Specific Conductance (µS/cm <sup>a</sup> )	Conductivity (µS/cm)	pH (SU)	Dissolved Oxygen (mg/L) <sup>a</sup>	Dissolved Oxygen (Percent) <sup>a</sup>	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Field Spectrophotometer Readings (mg/L) <sup>b,c</sup>
MW-01	June 2018	20.44	893	815	7.35	8.80	98.0	188.7	0.0	--
MW-03	June 2018	17.05	999	847	6.75	1.02	10.5	260.5	1.2	0.0 (visibly clear)
MW-04	June 2018	19.41	2373	2120	6.73	2.20	24.1	668.5	39.0	117.3 (visibly pink)
MW-05	June 2018	22.67	543	519	6.64	5.65	65.4	137.2	0.0	0.0 (visibly clear)
MW-06	June 2018	30.88	649	713	6.44	5.18	68.8	172.6	0.4	-- (visibly clear) <sup>d</sup>
MW-07	June 2018	20.92	1063	980	6.61	0.31	3.5	102.6	1.1	--
MW-08	June 2018	24.17	1111	1093	7.17	0.93	11.2	134	2.8	0.0 (visibly clear)
MW-13	June 2018	21.56	1206	1128	7.23	0.12	1.4	-144.9	6.1	--
PZ-01	June 2018	21.28	3038	2822	6.59	3.98	45.3	706.2	185.3	88 (visibly purple)

<sup>a</sup> The long-term monitoring plan indicates that dissolved oxygen (DO) readings should not be collected from onsite wells due to the presence of the permanganate (which damages the DO probe membranes). Some of the 2018 sampling equipment had optical DO sensors that are not damaged by permanganate, so DO measurements were collected from select onsite wells.

<sup>b</sup> Permanganate concentrations were measured in onsite wells only using a Hach DR 890 Colorimeter (a spectrophotometer).

<sup>c</sup> Locations where samples were visibly clear (not pink/purple) and had field spectrophotometer readings of 5 mg/L or less are not believed to be impacted by permanganate. These measurements are within the range of error of the field spectrophotometer. Two shallow bedrock monitoring wells (BW-33 and BW-05) had measured field spectrophotometer readings at the time of sampling that were greater than 5 mg/L. Water from both of these was visibly orange at the time of sampling; the orange coloration is likely attributed to biofouling at these wells.

<sup>d</sup> Permanganate concentrations were not measured at MW-06 due to insufficient sample volume; however, the sample was visibly clear.

Note: Field parameters were not collected for FLUTE<sup>TM</sup> well nests (BW-23, BW-24, and BW-26).

SU = standard units

°C = degrees Celsius

mV = millivolts

mg/L = milligrams per liter

NTU = nephelometric turbidity units

µS/cm = micro-Siemens per centimeter

µS/cm<sup>c</sup> = micro-Siemens per centimeter temperature corrected to 25 °C

-- = Not measured.



Table 3-2. Groundwater Analytical Results -- 2018

THAN Davenport Site, 2040 West River Drive

Field Sample Location:			BW-01	BW-02	BW-02	BW-03R	BW-04 <sup>a</sup>	BW-05	BW-06	BW-06	BW-09	BW-11	BW-13	BW-14	BW-14	BW-14	BW-14	BW-14	BW-14	BW-15	BW-16 <sup>a</sup>	BW-16	BW-16	BW-18	BW-18
Monitoring Well Type:			MNA	MNA	MNA	ISCO	ISCO	ISCO	ISCO	ISCO	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	ISCO	ISCO	ISCO	MNA	MNA
Sample Collection Date:			6/13/2018	6/12/2018	7/12/2018	6/13/2018	6/14/2018	6/13/2018	6/13/2018	6/13/2018	6/12/2018	6/13/2018	6/12/2018	6/12/2018	6/12/2018	7/10/2018	7/10/2018	9/12/2018	9/12/2018	6/13/2018	6/14/2018	12/5/2018	12/5/2018	9/13/2018	9/13/2018
Field Sample Identification:			AFDV-109	AFDV-110	AFDV-230	AFDV-111	AFDV-112	AFDV-113	AFDV-114	AFDV-115	AFDV-116	AFDV-117	AFDV-118	AFDV-119	AFDV-120	AFDV-228	AFDV-229	AFDV-403	AFDV-404	AFDV-121	AFDV-122	AFDV-501	AFDV-502	AFDV-405	AFDV-406
Well Screen Zone:			Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Matrix:			Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock
			Water	Water	Water	Water	Water	Water	Water	Water	Water, Dup	Water	Water	Water	Water	Water	Water, Dup	Water	Water, Dup	Water	Water	Water	Water, Dup	Water	Water, Dup
Laboratory Sample Identification:			280-110943-1	280-110865-1	280-111956-2	280-110943-2	280-111005-2	280-110943-1	280-110943-6	280-110943-8	280-110865-1	280-110943-1	280-110865-5	280-110865-1	280-110865-1	280-111864-1	280-111864-2	280-114284-2	280-114284-3	280-110943-3	280-111005-1	280-117849-1	280-117849-2	280-114332-7	280-114332-8
Volatile Organic Compounds	Units	RAO (EPA 2009)																							
1,1,1-Trichloroethane	µg/L	200 µg/L	0.17 J	NR	2 U	8100 J	NR	2400 J	89 J	88 J	1 UJ	1 UJ	1 UJ	NR	NR	10000 =	9600 =	NR	NR	1 UJ	NR	NR	NR	1 U	1 U
1,1-Dichloroethane	µg/L	2.4 µg/L*	0.22 J	NR	120 =	4200 J	NR	1000 J	140 J	140 J	1 UJ	0.45 J	1 UJ	NR	NR	12000 =	10000 =	NR	NR	44 J	NR	NR	NR	1 U	1 U
1,1-Dichloroethene	µg/L	7 µg/L	1 UJ	NR	7.8 =	630 J	NR	550 J	10 UJ	10 UJ	1 UJ	1 UJ	1 UJ	NR	NR	1000 =	1100 =	NR	NR	4.1 J	NR	NR	NR	1 U	1 U
1,2-Dichloroethane	µg/L	5 µg/L	1 UJ	NR	0.63 J	200 UJ	NR	500 UJ	10 UJ	10 UJ	1 UJ	1 UJ	1 UJ	NR	NR	23 J	200 U	NR	NR	1 UJ	NR	NR	NR	1 U	1 U
2-Butanone	µg/L	7100 µg/L*	6 UJ	NR	12 U	1200 UJ	NR	3000 UJ	60 UJ	60 UJ	6 UJ	6 UJ	6 UJ	NR	NR	600 U	1200 U	NR	NR	6 UJ	NR	NR	NR	6 U	6 U
Acetone	µg/L	22000 µg/L*	5 UJ	NR	20 U	2000 UJ	NR	5000 UJ	100 UJ	100 UJ	10 UJ	5.7 UJ	6.6 UJ	NR	NR	450 J	2000 U	NR	NR	5.8 UJ	NR	NR	NR	6.4 UB	8.7 UB
Benzene	µg/L	5 µg/L	1 UJ	NR	2 U	200 UJ	NR	500 UJ	28 J	30 J	1 UJ	1 UJ	1 UJ	NR	NR	59 J	61 J	NR	NR	1.6 J	NR	NR	NR	1 U	1 U
Chloroethane	µg/L	21000 µg/L*	2 UJ	NR	4 U	400 UJ	NR	1000 UJ	220 J	250 J	0.54 J	2 UJ	15 J	NR	NR	200 U	400 U	NR	NR	1.8 J	NR	NR	NR	2 U	2 U
cis-1,2-Dichloroethene	µg/L	70 µg/L	1 UJ	NR	170 =	80000 J	NR	150000 J	240 J	290 J	1 UJ	1.8 J	1 UJ	NR	NR	110000 =	100000 =	NR	NR	340 J	NR	NR	NR	1 U	1 U
Ethylbenzene	µg/L	700 µg/L	1 UJ	NR	2 U	1700 J	NR	220 J	320 J	330 J	1 UJ	1 UJ	1 UJ	NR	NR	3900 =	4400 =	NR	NR	1 UJ	NR	NR	NR	1 U	1 U
Methylene Chloride	µg/L	5 µg/L	2 UJ	NR	4 U	340 J	NR	230 J	6.2 J	6.3 J	2 UJ	2 UJ	2 UJ	NR	NR	200 U	400 U	NR	NR	2 UJ	NR	NR	NR	2 U	2 U
Styrene	µg/L	100 µg/L	1 UJ	NR	2 U	200 UJ	NR	500 UJ	10 UJ	10 UJ	1 UJ	1 UJ	1 UJ	NR	NR	100 U	180 J	NR	NR	1 UJ	NR	NR	NR	1 U	1 U
Tetrachloroethene	µg/L	5 µg/L	1 UJ	NR	2 U	45 J	NR	1300 J	10 UJ	10 UJ	1 UJ	0.26 J	1 UJ	NR	NR	100 U	200 U	NR	NR	1 UJ	NR	NR	NR	1 U	1 U
Toluene	µg/L	1000 µg/L	1 UJ	NR	2 U	4400 J	NR	760 J	3400 J	3900 J	1 UJ	1 UJ	1 UJ	NR	NR	35000 =	36000 =	NR	NR	1 UJ	NR	NR	NR	1 U	1 U
trans-1,2-Dichloroethene	µg/L	100 µg/L	1 UJ	NR	0.81 J	150 J	NR	300 J	3 J	3.2 J	1 UJ	1 UJ	1 UJ	NR	NR	86 J	100 J	NR	NR	0.59 J	NR	NR	NR	1 U	1 U
Trichloroethene	µg/L	5 µg/L	1 UJ	NR	2 U	200 UJ	NR	1500 J	10 UJ	10 UJ	1 UJ	0.32 J	1 UJ	NR	NR	100 U	200 U	NR	NR	1 UJ	NR	NR	NR	1 U	1 U
Vinyl Chloride	µg/L	2 µg/L	1 UJ	NR	70 =	2600 J	NR	4700 J	470 J	550 J	1 UJ	0.21 J	1 UJ	NR	NR	22000 =	22000 =	NR	NR	400 J	NR	NR	NR	1 U	1 U
Xylenes, Total	µg/L	10000 µg/L	2 UJ	NR	4 U	4100 J	NR	630 J	540 J	590 J	2 UJ	2 UJ	2 UJ	NR	NR	12000 J	16000 J	NR	NR	2 UJ	NR	NR	NR	2 U	2 U
General Chemistry																									
Alkalinity, Total (As CaCO3)	mg/L	NA	310 =	340 =	NR	NR	NR	NR	NR	NR	550 =	440 =	660 =	630 =	640 =	NR	NR	NR	NR	350 =	NR	NR	NR	330 =	330 =
Chloride (As Cl)	mg/L	NA	44 =	120 =	NR	130 =	130 J	510 =	150 =	150 =	39 =	23 =	100 =	310 =	310 =	NR	NR	NR	NR	150 =	270 =	430 =	480 =	26 =	26 =
Ethane	µg/L	NA	5 U	3 J	NR	NR	NR	NR	NR	NR	5 U	5 U	400 =	NR	NR	NR	NR	27 J	30 J	31 J	NR	NR	NR	5 U	5 U
Ethene	µg/L	NA	5 U	95 =	NR	NR	NR	NR	NR	NR	5 U	5 U	5 U	NR	NR	NR	NR	2700 J	2600 J	32 J	NR	NR	NR	5 U	5 U
Ferrous Iron	mg/L	NA	0.2 UJ	0.2 UJ	NR	NR	NR	NR	NR	NR	0.64 J	0.2 UJ	0.99 J	1.2 J	1.2 J	NR	NR	NR	NR	0.2 UJ	NR	NR	NR	0.059 UJ	0.038 UJ
Methane	µg/L	NA	0.58 UB	170 =	NR	NR	NR	NR	NR	NR	16000 =	94 =	13000 =	NR	NR	NR	NR	190 J	190 J	400 J	NR	NR	NR	6.5 =	6.9 =
Nitrogen, Nitrate (As N)	mg/L	NA	2.6 =	0.5 U	NR	NR	NR	NR	NR	NR	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	NR	NR	NR	NR	0.5 U	NR	NR	NR	0.5 U	0.5 U
Sulfate (As SO4)	mg/L	NA	64 =	70 =	NR	NR	NR	NR	NR	NR	5 U	46 =	25 U	63 =	69 =	NR	NR	NR	NR	110 =	NR	NR	NR	160 =	160 =
Sulfide	mg/L	NA	1 U	0.6 J	NR	NR	NR	NR	NR	NR	1 U	1 U	1 U	27 J	3 J	NR	NR	NR	NR	1 U	NR	NR	NR	1 U	1 U
Total Organic Carbon	mg/L	NA	1.7 UB	2.2 =	NR	6.1 =	NR	8.5 =	5.7 =	5.6 =	9.5 =	3.4 =	11 =	15 =	14 =	NR	NR	NR	NR	2.3 =	NR	NR	NR	2 =	2 =

Notes:  
dup = field duplicate  
mg/L = milligrams per liter  
NA = Not applicable  
NR = Not reported  
SU = standard units  
µg/L = micrograms per liter  
\* RAO = Remedial Action Objective (If no Maximum Contaminant Level [MCL] was available for the analyte, then the December 2009 EPA Regional Screening Levels [RSLs] [tap water] were used.)

<sup>a</sup>In accordance with the OMMP, samples were only analyzed for chloride due to presence of permanganate at the time of sampling.  
<sup>b</sup>Monitoring well MW-06 went dry during sampling and only sufficient sample volume was available for VOC analysis. Since the laboratory analyzed this sample 2 times outside of the hold time in the QAPP, the results for this well are not reported. Sampling of this well was attempted in September; however, because the well was dry a sample could not be collected.

**Bold indicates the analyte was detected in the groundwater sample.**

Shading indicates the analyte was detected above the MCL.

Validation Codes:  
U Undetected. The analyte was analyzed for but not detected at a concentration equal to or greater than the laboratory reporting limit.  
J Estimated. The analyte was below the stated reporting limit, but greater than the method detection limit (MDL), or there is an analytical bias.

UB Undetected due to blank contamination. The analyte was detected in the sample and in an associated method, field, or trip blank. The quantity of the analyte is deemed undetected because it falls below the 95-percent confidence interval (five times the blank concentration). The analyte concentration is potentially the result of contamination.  
UJ Estimated. The analyte was not detected above the MDL; however, the MDL is approximate, and may or may not represent the actual limit of detection.



Table 3-2. Groundwater Analytical Results – 2018

THAN Davenport Site, 2040 West River Drive

Field Sample Location:			BW-19	BW-21	BW-23-50'	BW-23-125'	BW-23-390'	BW-24-390'	BW-25	BW-26-65'	BW-26-65'	BW-26-85'	BW-26-85'	BW-26-85'	BW-26-85'	BW-26-395'	BW-26-395'	BW-27	BW-28	BW-31	BW-33	BW-34	BW-34	BW-35	BW-37	BW-37	
Monitoring Well Type:			MNA	MNA	ISCO	ISCO	ISCO	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	ISCO	ISCO	ISCO	ISCO	ISCO	ISCO	ISCO	ISCO		
Sample Collection Date:			6/12/2018	6/12/2018	6/12/2018	6/12/2018	6/12/2018	6/12/2018	6/13/2018	6/12/2018	9/12/2018	6/12/2018	6/12/2018	9/12/2018	9/12/2018	6/12/2018	9/12/2018	6/14/2018	6/14/2018	6/14/2018	6/13/2018	6/13/2018	9/13/2018	6/13/2018	6/13/2018		
Field Sample Identification:			AFDV-124	AFDV-125	AFDV-126	AFDV-127	AFDV-128	AFDV-129	AFDV-130	AFDV-131	AFDV-407	AFDV-132	AFDV-133	AFDV-408	AFDV-409	AFDV-134	AFDV-410	AFDV-135	AFDV-136	AFDV-137	AFDV-138	AFDV-139	AFDV-411	AFDV-140	AFDV-141	AFDV-142	
Well Screen Zone:			Shallow	Intermediate	Shallow	Intermediate	Deep Bedrock	Deep Bedrock	Shallow	Intermediate	Intermediate	Intermediate	Intermediate	Intermediate	Intermediate	Deep Bedrock	Deep Bedrock	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	
Matrix:			Bedrock	Bedrock	Bedrock	Bedrock	Water	Water	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Water	Water	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	Bedrock	
			Water	Water	Water	Water			Water	Water	Water	Water	Water	Water	Water, Dup			Water	Water	Water	Water	Water	Water	Water	Water	Water, Dup	
Laboratory Sample Identification:			280-110865-6	280-110865-1	280-110865-1	280-110865-2	280-110865-3	280-110865-4	280-110943-4	280-110865-8	280-114284-4	280-110865-1	280-110865-1	280-114284-5	280-114284-6	280-110865-9	280-114284-7	280-111005-6	280-111005-3	280-111005-4	280-110943-9	280-110943-1	280-114332-1	280-110943-7	280-110943-1	280-110943-1	
Volatile Organic Compounds	Units	RAO (EPA 2009)																									
1,1,1-Trichloroethane	µg/L	200 µg/L	1 U	1 UJ	1200 =	1 U	1 UJ	1 UJ	1 UJ	120 J	NR	36 J	37 J	NR	NR	2.1 J	NR	6000 =	4600 J	6300 J	40 J	NR	1 UJ	59 J	NR	NR	
1,1-Dichloroethane	µg/L	2.4 µg/L*	1 U	1 UJ	3000 J	1.2 =	67 J	1 UJ	1 UJ	3100 J	NR	1100 =	1200 J	NR	NR	49 J	NR	830 =	1300 J	620 =	100 J	NR	21 J	54 J	NR	NR	
1,1-Dichloroethene	µg/L	7 µg/L	1 U	1 UJ	530 =	1 U	0.47 J	1 UJ	1 UJ	180 J	NR	26 J	26 J	NR	NR	4 UJ	NR	830 =	460 J	460 =	0.34 J	NR	1 UJ	20 J	NR	NR	
1,2-Dichloroethane	µg/L	5 µg/L	1 U	1 UJ	200 U	1 U	1 UJ	1 UJ	1 UJ	100 UJ	NR	40 U	40 UJ	NR	NR	4 UJ	NR	800 U	200 UJ	5.9 J	0.58 J	NR	1.7 J	10 UJ	NR	NR	
2-Butanone	µg/L	7100 µg/L*	6 U	6 UJ	1200 U	6 U	6 UJ	6 UJ	6 UJ	600 UJ	NR	240 U	240 UJ	NR	NR	24 UJ	NR	4800 U	1200 UJ	240 U	6 UJ	NR	6 UJ	60 UJ	NR	NR	
Acetone	µg/L	22000 µg/L*	10 U	10 UJ	2000 U	24 UB	3.9 UJ	10 UJ	2.8 UJ	1000 UJ	NR	400 U	400 UJ	NR	NR	40 UJ	NR	8000 U	2000 UJ	400 U	8.7 UJ	NR	10 UJ	100 UJ	NR	NR	
Benzene	µg/L	5 µg/L	1 U	1 UJ	33 J	0.21 J	3.3 J	1 UJ	7.8 J	54 J	NR	36 J	37 J	NR	NR	21 J	NR	800 U	200 UJ	40 U	0.53 J	NR	2.3 J	10 UJ	NR	NR	
Chloroethane	µg/L	21000 µg/L*	2 U	2 UJ	400 U	29 =	210 J	2 UJ	200 J	1000 J	NR	1400 =	1300 J	NR	NR	1100 J	NR	1600 U	400 UJ	80 U	8.3 J	NR	32 J	20 UJ	NR	NR	
cis-1,2-Dichloroethene	µg/L	70 µg/L	1 U	1 UJ	45000 =	1.3 =	110 J	1 UJ	1 UJ	7000 J	NR	1300 =	1300 J	NR	NR	19 J	NR	170000 J	42000 J	2200 =	140 J	NR	24 J	4200 J	NR	NR	
Ethylbenzene	µg/L	700 µg/L	1 U	1 UJ	1500 =	0.24 J	32 J	1 UJ	7.4 J	830 J	NR	430 =	470 J	NR	NR	160 J	NR	1300 =	200 UJ	40 U	0.18 J	NR	1 UJ	150 J	NR	NR	
Methylene Chloride	µg/L	5 µg/L	2 U	2 UJ	72 J	2 U	0.47 J	2 UJ	2 UJ	200 UJ	NR	80 U	80 UJ	NR	NR	8 UJ	NR	510 J	260 J	24 J	0.35 UJ	NR	0.68 UJ	20 UJ	NR	NR	
Styrene	µg/L	100 µg/L	1 U	1 UJ	200 U	1 U	1 UJ	1 UJ	1 UJ	100 UJ	NR	40 U	40 UJ	NR	NR	4 UJ	NR	800 U	200 UJ	40 U	1 UJ	NR	1 UJ	10 UJ	NR	NR	
Tetrachloroethene	µg/L	5 µg/L	1 U	1 UJ	200 U	1 U	1 UJ	1 UJ	1 UJ	100 UJ	NR	40 U	40 UJ	NR	NR	1.5 J	NR	800 U	1300 J	40 U	0.88 J	NR	1 UJ	3 J	NR	NR	
Toluene	µg/L	1000 µg/L	1 U	1 UJ	1700 =	0.4 UB	3.4 J	1 UJ	0.97 UJ	19000 J	NR	8500 =	9000 J	NR	NR	800 J	NR	2700 =	200 UJ	40 U	1 UJ	NR	1 UJ	14 J	NR	NR	
trans-1,2-Dichloroethene	µg/L	100 µg/L	1 U	1 UJ	45 J	0.45 J	0.21 J	1 UJ	1 UJ	29 J	NR	11 J	11 J	NR	NR	2.1 J	NR	800 U	51 J	40 U	0.77 J	NR	1 UJ	11 J	NR	NR	
Trichloroethene	µg/L	5 µg/L	1 U	1 UJ	200 U	1 U	1 UJ	1 UJ	1 UJ	100 UJ	NR	40 U	40 UJ	NR	NR	4 UJ	NR	800 U	1600 J	40 U	0.8 J	NR	1 UJ	8 J	NR	NR	
Vinyl Chloride	µg/L	2 µg/L	1 U	1 UJ	15000 =	1.6 =	230 J	1 UJ	1 UJ	13000 J	NR	2400 =	2300 J	NR	NR	73 J	NR	13000 =	2500 J	560 =	230 J	NR	39 J	290 J	NR	NR	
Xylenes, Total	µg/L	10000 µg/L	2 U	2 UJ	1100 =	2 U	11 J	2 UJ	37 J	2500 J	NR	1300 =	1300 J	NR	NR	600 J	NR	7400 =	400 UJ	7.7 J	0.87 UJ	NR	2 UJ	16 J	NR	NR	
General Chemistry																											
Alkalinity, Total (As CaCO3)	mg/L	NA	360 =	190 =	NR	NR	NR	480 =	570 =	550 =	NR	540 =	540 =	NR	NR	490 =	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Chloride (As Cl)	mg/L	NA	35 =	14 =	150 =	30 =	15 =	8.5 =	110 =	300 =	NR	260 =	270 =	NR	NR	66 =	NR	NR	180 =	32 =	48 =	37 =	NR	83 =	420 =	420 =	
Ethane	µg/L	NA	14 =	5 U	NR	NR	NR	1.9 J	2000 J	NR	620 =	NR	NR	860 J	1600 J	NR	3800 =	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Ethene	µg/L	NA	5 U	5 U	NR	NR	NR	5 U	5 UJ	NR	4400 =	NR	NR	6200 J	9900 J	NR	3400 =	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Ferrous Iron	mg/L	NA	0.12 J	0.2 UJ	NR	NR	NR	0.2 UJ	0.54 J	0.32 J	NR	0.18 J	0.18 J	NR	NR	0.054 J	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Methane	µg/L	NA	2200 =	0.61 UB	NR	NR	NR	610 =	7300 J	NR	3000 =	NR	NR	4000 =	4000 =	NR	5500 =	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Nitrogen, Nitrate (As N)	mg/L	NA	0.5 U	2.8 =	NR	NR	NR	0.068 J	0.5 U	0.5 U	NR	0.5 U	0.5 U	NR	NR	0.5 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Sulfate (As SO4)	mg/L	NA	5 U	18 =	NR	NR	NR	7.7 =	9.2 =	1.2 J	NR	5 U	0.9 J	NR	NR	5 U	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Sulfide	mg/L	NA	0.8 J	0.6 J	NR	NR	NR	0.6 J	1 U	6.4 =	NR	7 J	4.6 J	NR	NR	2.2 =	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Total Organic Carbon	mg/L	NA	5.2 =	3.3 =	3.1 =	1.8 UB	4.9 =	6.5 =	6.8 =	17 =	NR	13 =	13 =	NR	NR	5.7 =	NR	23 =	6 =	6.2 =	6.9 =	3.9 =	NR	2.9 =	14 =	14 =	

Notes:

dup = field duplicate

mg/L = milligrams per liter

NA = Not applicable

NR = Not reported

SU = standard units

µg/L = micrograms per liter

\* RAO = Remedial Action Objective (If no Maximum Contaminant Level [MCL] was available for the analyte, then the December 2009 EPA Regional Screening Levels [RSLs] [tap water] were used.)

<sup>a</sup>In accordance with the OMMP, samples were only analyzed for chloride due to presence of permanganate at the time of sampling.

<sup>b</sup>Monitoring well MW-06 went dry during sampling and only sufficient sample volume was available for VOC analysis. Since the laboratory analyzed this sample 2 times outside of the hold time in the QAPP, the results for this well are not reported. Sampling of this well was attempted in September; however, because the well was dry a sample could not be collected.

**Bold indicates the analyte was detected in the groundwater sample.**

Shading indicates the analyte was detected above the MCL.

Validation Codes:

U Undetected. The analyte was analyzed for but not detected at a concentration equal to or greater than the laboratory reporting limit.

J Estimated. The analyte was below the stated reporting limit, but greater than the method detection limit (MDL), or there is an analytical bias.

UB Undetected due to blank contamination. The analyte was detected in the sample and in an associated method, field, or trip blank. The quantity of the analyte is deemed undetected because it falls below the 95-percent confidence interval (five times the blank concentration). The analyte concentration is potentially the result of contamination.

UJ Estimated. The analyte was not detected above the MDL; however, the MDL is approximate, and may or may not represent the actual limit of detection.



Table 3-2. Groundwater Analytical Results -- 2018

THAN Davenport Site, 2040 West River Drive

	<b>Field Sample Location:</b>		BW-37	BW-37	MW-01	MW-03	MW-04 <sup>a</sup>	MW-05	MW-06 <sup>b</sup>	MW-07	MW-08	MW-13	PZ-01 <sup>a</sup>
	<b>Monitoring Well Type:</b>		ISCO	ISCO	MNA	ISCO	ISCO	ISCO	ISCO	MNA	ISCO	MNA	ISCO
	<b>Sample Collection Date:</b>		9/13/2018	9/13/2018	6/13/2018	6/14/2018	6/14/2018	6/13/2018	6/13/2018	6/12/2018	6/13/2018	6/12/2018	6/13/2018
	<b>Field Sample Identification:</b>		AFDV-412	AFDV-413	AFDV-101	AFDV-102	AFDV-103	AFDV-104	AFDV-105	AFDV-106	AFDV-107	AFDV-108	AFDV-143
	<b>Well Screen Zone:</b>		Shallow Bedrock	Shallow Bedrock	Unconsolidated	Unconsolidated	Unconsolidated	Unconsolidated	Unconsolidated	Unconsolidated	Unconsolidated	Unconsolidated	Shallow Bedrock
	<b>Matrix:</b>		Water	Water, Dup	Water	Water	Water	Water	Water	Water	Water	Water	Water
	<b>Laboratory Sample Identification:</b>		280-114332-2	280-114332-3	280-110943-1	280-111005-5	280-111005-7	280-110943-1	280-110943-19	280-110865-1	280-110943-1	280-110865-1	280-110943-1
<b>Volatile Organic Compounds</b>	<b>Units</b>	<b>RAO (EPA 2009)</b>											
1,1,1-Trichloroethane	µg/L	200 µg/L	19000 =	21000 =	1 UJ	0.46 J	NR	28 J	12 J	20 J	2.6 J	1 U	NR
1,1-Dichloroethane	µg/L	2.4 µg/L*	4900 =	4900 =	1 UJ	6.4 =	NR	11 J	0.42 J	54 J	2.5 J	1 U	NR
1,1-Dichloroethene	µg/L	7 µg/L	930 =	890 =	1 UJ	1 U	NR	0.77 J	NR	6.6 J	10 UJ	1 U	NR
1,2-Dichloroethane	µg/L	5 µg/L	73 J	80 J	1 UJ	1 U	NR	1 UJ	NR	4 UJ	10 UJ	1 U	NR
2-Butanone	µg/L	7100 µg/L*	3000 U	3000 U	6 UJ	6 U	NR	6 UJ	NR	24 UJ	60 UJ	6 U	NR
Acetone	µg/L	22000 µg/L*	3300 J	3100 J	6 UJ	3.4 J	NR	8.1 UJ	NR	40 UJ	100 UJ	10 U	NR
Benzene	µg/L	5 µg/L	96 J	97 J	1 UJ	1 U	NR	1 UJ	NR	4 UJ	10 UJ	1 U	NR
Chloroethane	µg/L	21000 µg/L*	1000 U	1000 U	2 UJ	2 U	NR	2 UJ	NR	8 UJ	20 UJ	2 U	NR
cis-1,2-Dichloroethene	µg/L	70 µg/L	51000 =	52000 =	1 UJ	110 J	NR	27 J	0.72 J	1100 J	1000 J	1 U	NR
Ethylbenzene	µg/L	700 µg/L	1800 =	1700 =	1 UJ	1 U	NR	1 UJ	NR	4 UJ	10 UJ	1 U	NR
Methylene Chloride	µg/L	5 µg/L	120000 =	120000 =	2 UJ	0.58 UB	NR	2 UJ	NR	8 UJ	20 UJ	2 U	NR
Styrene	µg/L	100 µg/L	500 U	500 U	1 UJ	1 U	NR	1 UJ	NR	4 UJ	10 UJ	1 U	NR
Tetrachloroethene	µg/L	5 µg/L	220 J	210 J	1 UJ	2.1 =	NR	210 J	30 J	4 UJ	2600 J	1 U	NR
Toluene	µg/L	1000 µg/L	19000 =	19000 =	1 UJ	1 U	NR	1 UJ	NR	4 UJ	10 UJ	1 U	NR
trans-1,2-Dichloroethene	µg/L	100 µg/L	130 J	130 J	1 UJ	0.64 J	NR	1 J	NR	2.7 J	4 J	1 U	NR
Trichloroethene	µg/L	5 µg/L	280 J	270 J	1 UJ	5.5 =	NR	20 J	12 J	5 J	180 J	1 U	NR
Vinyl Chloride	µg/L	2 µg/L	24000 =	26000 =	1 UJ	0.35 J	NR	1 UJ	NR	270 J	39 J	1 U	NR
Xylenes, Total	µg/L	10000 µg/L	3700 =	3600 =	2 UJ	2 U	NR	2 UJ	NR	8 UJ	20 UJ	2 U	NR
<b>General Chemistry</b>													
Alkalinity, Total (As CaCO3)	mg/L	NA	NR	NR	240 =	NR	NR	NR	NR	410 =	NR	570 =	NR
Chloride (As Cl)	mg/L	NA	NR	NR	42 =	12 =	69 =	22 =	NR	33 =	9.3 =	34 =	63 J
Ethane	µg/L	NA	NR	NR	5 U	NR	NR	NR	NR	28 =	NR	8.3 J	NR
Ethene	µg/L	NA	NR	NR	5 U	NR	NR	NR	NR	5 U	NR	15 U	NR
Ferrous Iron	mg/L	NA	NR	NR	0.2 UJ	NR	NR	NR	NR	0.2 UJ	NR	1.1 J	NR
Methane	µg/L	NA	NR	NR	0.62 UB	NR	NR	NR	NR	99 =	NR	12000 =	NR
Nitrogen, Nitrate (As N)	mg/L	NA	NR	NR	5.7 =	NR	NR	NR	NR	0.5 U	NR	2.5 U	NR
Sulfate (As SO4)	mg/L	NA	NR	NR	41 =	NR	NR	NR	NR	150 =	NR	25 U	NR
Sulfide	mg/L	NA	NR	NR	1 U	NR	NR	NR	NR	1 U	NR	1 U	NR
Total Organic Carbon	mg/L	NA	NR	NR	2.2 =	1.4 UB	NR	3.6 =	NR	3.4 =	6.6 =	9.8 =	NR

Notes:

dup = field duplicate

mg/L = milligrams per liter

NA = Not applicable

NR = Not reported

SU = standard units

µg/L = micrograms per liter

\* RAO = Remedial Action Objective (If no Maximum Contaminant Level [MCL] was available for the analyte, then the December 2009 EPA Regional Screening Levels [RSLs] [tap water] were used.)

<sup>a</sup>In accordance with the OMMP, samples were only analyzed for chloride due to presence of permanganate at the time of sampling.

<sup>b</sup>Monitoring well MW-06 went dry during sampling and only sufficient sample volume was available for VOC analysis. Since the laboratory analyzed this sample 2 times outside of the hold time in the QAPP, the results for this well are not reported. Sampling of this well was attempted in September; however, because the well was dry a sample could not be collected.

**Bold indicates the analyte was detected in the groundwater sample.**

Shading indicates the analyte was detected above the MCL.

Validation Codes:

U Undetected. The analyte was analyzed for but not detected at a concentration equal to or greater than the laboratory reporting limit.

J Estimated. The analyte was below the stated reporting limit, but greater than the method detection limit (MDL), or there is an analytical bias.

UB Undetected due to blank contamination. The analyte was detected in the sample and in an associated method, field, or trip blank. The quantity of the analyte is deemed undetected because it falls below the 95-percent confidence interval (five times the blank concentration). The analyte concentration is potentially the result of contamination.

UJ Estimated. The analyte was not detected above the MDL; however, the MDL is approximate, and may or may not represent the actual limit of detection.



**Table 3-3. Summary Statistics for Volatile Organic Compounds – 2018 Groundwater Monitoring Data**  
*THAN Davenport Site, 2040 West River Drive*

Analyte	Total Samples	Detects	Non- Detects	Detect Freq. (%)	Min (µg/L)	Max (µg/L)	Mean (µg/L)	Median (µg/L)
1,1,1-Trichloroethane	34	19	15	55.9	0.17	19,000	1,706	1.3
1,1-Dichloroethane <sup>a</sup>	34	25	9	73.5	0.22	12,000	962	46.5
1,1-Dichloroethene	34	17	17	50.0	0.34	1,000	166	0.6
1,2-Dichloroethane	34	6	28	17.7	0.58	73	7	0.3
2-Butanone	34	0	34	0.0	--	--	81	1
Acetone	34	2	32	5.9	450.00	3,300	170	1.0
Benzene	34	13	21	38.2	0.21	96	14	0.8
Chloroethane	34	12	22	35.3	0.54	1,400	140	8.2
cis-1,2-Dichloroethene <sup>a</sup>	34	24	10	70.6	1.30	170,000	19,588	125.0
Ethylbenzene	34	15	19	44.1	0.18	3,900	364	0.3
Methylene Chloride	34	9	25	26.5	0.47	120,000	3,573	0.2
Styrene	34	0	34	0.0	--	--	7	0
Tetrachloroethene	34	11	23	32.4	0.26	2,600	171	0.64
Toluene	34	12	22	35.3	3.40	35,000	2,803	0.13
trans-1,2-Dichloroethene	34	20	14	58.8	0.21	300	26.3	0.79
Trichloroethene	34	10	24	29.4	0.32	1,600	109	0.56
Vinyl Chloride <sup>a</sup>	34	23	11	67.7	0.21	24,000	2,996	72
Xylenes, Total	34	14	20	41.2	7.70	12,000	999	0.29

Notes:

µg/L = micrograms per liter

Summary statistics (minimum, maximum, mean, and median) calculated using normal sample results and assuming a proxy value of one-half the method detection limit for non-detect values.

<sup>a</sup> The three VOC constituents with the highest frequency of detection compared with other individual compounds.



**Table 3-4. Mann-Kendall Trend Analysis for Total Volatile Organic Compounds – 2018 Planar Areas**

*THAN Davenport Site, 2040 West River Drive*

Contour Line/Resultant Area for which Trend is Evaluated/Noted	Mann-Kendall Result	Area Trend	Stability
10-µg/L Contour Line Area	99.8% (sig -)	Decreasing	NA
100-µg/L Contour Line Area	99.9% (sig -)	Decreasing	NA
1,000-µg/L Contour Line Area	100.0% (sig -)	Decreasing	NA
10,000-µg/L Contour Line Area	100.0% (sig -)	Decreasing	NA
100,000-µg/L Contour Line Area	100.0% (sig -)	Decreasing	NA

Notes:

sig = significance

NA = Not applicable

- = decreasing

+ = increasing

Trend analysis performed using Mann-Kendall single-tailed test at 0.05 significance level.

If planar area trends exhibit "no trend" at the 95% confidence level, concentrations are deemed stable when the coefficient of variation (COV) is equal to or less than one. The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are relatively "high" can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.



Table 3-5. Total VOC Concentration Trends at Individual Wells Using Mann-Kendall Trend Analysis — 2018

THAN Davenport Site, 2040 West River Drive

Well	Total Samples	Monitored Zone	Detection Frequency (%)	Mann-Kendall Result	Mann-Kendall Trend	Stability	Most Recent Sampling	Most Recent Sampling Date
<b>ISCO Monitoring Wells</b>								
BW-03/BW-03R	23	Shallow Bedrock	100	54.2% (-)	No Trend	Stable	106,265	Jun-18
BW-04	17	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	49.0	Jun-11
BW-05	16	Shallow Bedrock	100	99.6% (sig -)	Decreasing	NA	163,590	Jun-18
BW-06	14	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	5,456	Jun-18
BW-16	17	Shallow Bedrock	100	88.4% (-)	No Trend	Stable	103,770	Jun-17
BW-23-50'	24	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	69,180	Jun-18
BW-23-125'	24	Intermediate Bedrock	100	100.0% (sig -)	Decreasing	NA	34.0	Jun-18
BW-23-390'	24	Deep Bedrock	100	100.0% (sig -)	Decreasing	NA	668	Jun-18
BW-27	16	Shallow Bedrock	100	65.7% (-)	No Trend	Stable	202,570	Jun-18
BW-28	10	Shallow Bedrock	100	75.8% (-)	No Trend	Stable	54,071	Jun-18
BW-31	14	Shallow Bedrock	100	99.0% (sig -)	Decreasing	NA	10,178	Jun-18
BW-33	16	Shallow Bedrock	100	97.9% (sig -)	Decreasing	NA	522	Jun-18
BW-34	16	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	120	Sep-18
BW-35	14	Shallow Bedrock	100	83.5% (-)	No Trend	Stable	4,825	Jun-18
BW-37	16	Shallow Bedrock	100	98.9% (sig -)	Decreasing	NA	248,429	Sep-18
MW-03	16	Unconsolidated	100	98.3% (sig -)	Decreasing	NA	125	Jun-18
MW-04	20	Unconsolidated	100	100.0% (sig -)	Decreasing	NA	2,825	Jun-16
MW-05	21	Unconsolidated	100	77.5% (-)	No Trend	Not Stable	298	Jun-18
MW-06	7	Unconsolidated	100	98.5% (sig -)	Decreasing	NA	88.8	Jun-16
MW-08	20	Unconsolidated	100	100.0% (sig -)	Decreasing	NA	3,828	Jun-18
PZ-01	14	Shallow Bedrock	100	99.3% (sig -)	Decreasing	NA	4,364	Dec-14
<b>MNA Monitoring Wells</b>								
BW-01	25	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	0.390	Jun-18
BW-02	13	Shallow Bedrock	100	95.0% (sig -)	Decreasing	NA	369	Jul-18
BW-09	22	Shallow Bedrock	95	100.0% (sig -)	Decreasing	NA	0.540	Jun-18
BW-11	21	Shallow Bedrock	100	99.9% (sig -)	Decreasing	NA	3.04	Jun-18
BW-13	23	Shallow Bedrock	65	93.4% (-)	No Trend	Not Stable	15.0	Jun-18
BW-14	12	Shallow Bedrock	100	63.1% (+)	No Trend	Stable	206,518	Jul-18
BW-15	12	Shallow Bedrock	100	99.8% (sig -)	Decreasing	NA	792	Jun-18
BW-18	23	Shallow Bedrock	22	NA	>50% ND	NA	0.010	Sep-18
BW-19	21	Shallow Bedrock	86	99.9% (sig -)	Decreasing	NA	0.010	Jun-18
BW-21	20	Intermediate Bedrock	45	NA	>50% ND	NA	0.010	Jun-18
BW-24-390'	20	Deep Bedrock	70	99.9% (sig -)	Decreasing	NA	0.010	Jun-18
BW-25	20	Shallow Bedrock	100	82.7% (-)	No Trend	Stable	252	Jun-18
BW-26-65'	15	Intermediate Bedrock	100	50.0% (+)	No Trend	Stable	46,813	Jun-18
BW-26-85'	15	Intermediate Bedrock	100	81.0% (-)	No Trend	Stable	16,539	Jun-18
BW-26-395'	13	Deep Bedrock	100	99.8% (sig -)	Decreasing	NA	2,828	Jun-18
MW-01	22	Unconsolidated	14	NA	>50% ND	NA	0.010	Jun-18
MW-07	11	Unconsolidated	100	99.9% (sig -)	Decreasing	NA	1,458	Jun-18
MW-13	10	Unconsolidated	70	97.0% (sig -)	Decreasing	NA	0.010	Jun-18

Notes:

% = percent

NA = not applicable

µg/L = micrograms per liter

&gt;50% ND = greater than 50 percent non-detects

sig = significance

- = decreasing

+ = increasing

Trend analysis performed using Mann-Kendall single-tailed test at 0.05 significance level.

For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than 1.

The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are high can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.

Total VOCs include 1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; 1,2-dichloroethane; 2-butanone; acetone; benzene; chloroethane; cis-1,2-dichloroethene; ethylbenzene; methylene chloride; styrene; tetrachloroethene; toluene; trichloroethene; trans-1,2-dichloroethene; vinyl chloride; and xylenes.



**Table 3-6. Evaluation of Current and Future Biodegradation for Wells with Increasing CVOC Daughter Compound Trends in 2018**

THAN Davenport Site, 2040 West River Drive

Monitoring Well		Monitored Zone		Current Evidence of Biodegradation					Data Supporting Future Biodegradation	
									Located Downgradient of or Within the ROI of ISCO Treatment Areas <sup>e</sup>	
				Increasing Concentration Trend for CVOC Daughter Products <sup>a</sup>	Stable or Decreasing Trends of Total VOCs <sup>b</sup>	Ethene, and/or Methane detected <sup>c</sup>	Elevated Chloride Concentrations <sup>c</sup>	Reducing Geochemical Environment <sup>d</sup>	Aromatic Compounds Detected <sup>c</sup>	
Onsite										
BW-23-50'	Shallow Bedrock	Increasing trend for VC	Yes	NS	Yes	NS	Yes	Yes		
BW-27	Shallow Bedrock	Increasing trends for VC and DCE12C	Yes	NS	Yes	NS	Yes	Yes		
BW-37	Shallow Bedrock	Increasing trend for VC	Yes	NS	Yes	NS	Yes	Yes		
Offsite										
BW-14	Shallow Bedrock	Increasing trend VC	Yes	Yes	Yes	Yes	Yes	Yes		

**Notes:**

DCE12C = cis, 1-2 dichloroethene

ISCO = in situ chemical oxidation

MNA = monitored natural attenuation

NS = Not sampled for the indicated parameter(s). In accordance with the long-term groundwater monitoring plan (LTMP), only offsite LTMP monitoring wells are sampled for MNA parameters, which include field parameters, alkalinity, ethane, ethene, methane, ferrous iron, nitrate, sulfate, and sulfide.

ROI = radius of influence

VC = vinyl chloride

<sup>a</sup>Increasing trends for individual CVOC daughter products are summarized in Table G-1 in Appendix G.

<sup>b</sup>Increasing trends for total VOCs are summarized based upon the data analysis presented in Section 3.2.1.3 of the report text.

<sup>c</sup>2018 analytical results are presented in Table 3-2. Ethene, ethane, and methane are analyzed at offsite locations.

<sup>d</sup>Reducing environment described by field parameters in Table 3-1 and geochemical parameters (offsite wells only) in Table 3-2.

<sup>e</sup>ISCO treatment areas are presented on Figure 2-1.



Table 3-7. Individual VOC Compound Mass Estimate (kg) – 2018 LTMP Monitoring Wells (Onsite and Offsite Wells)

THAN Davenport Site, 2040 West River Drive

Mass <sup>a</sup> (Kilograms)	Jun-05	Jun-06	Oct-07	Jul-08	Jun-09	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	Jun-16	Jun-17	Jun-18
<b>CVOC Parent Compounds</b>														
1,1,1 trichloroethane	2425	2933	1881	2286	1445	1268	1060	1076	549	586	280	216	233	387
Methylene Chloride	510	463	322	674	336	210	156	145	14	608	25	10	542	286
Tetrachloroethene	1265	1424	1164	912	834	867	680	708	204	165	143	161	192	205
Trichloroethene	935	1000	844	551	347	263	183	192	76	313	38	38	52	57
<b>CVOC Daughter Products</b>														
cis-1,2-Dichloroethene	9731	9979	11426	12108	9398	7243	7076	7386	5226	6216	4178	4191	4242	6112
trans-1,2-Dichloroethene	4	44	4	0	0	0	0	4	22	4	7	7	8	12
1,1-Dichloroethene	111	105	81	84	83	73	79	91	56	49	36	32	41	49
Vinyl Chloride	1234	1179	1321	1044	1093	784	670	1253	1122	1103	558	838	1856	954
1,1-Dichloroethane	598	504	541	435	432	342	312	477	426	402	284	244	494	357
1,2-Dichloroethane	0	0	0	0	0	0	0	0	2	0	0	0	0	0
Chloroethane	23	50	48	37	71	108	83	39	71	75	86	87	77	92
<b>Aromatics</b>														
Benzene	3	4	2	3	2	2	1	2	6	2	3	3	5	4
Toluene	3902	3988	4010	4589	3668	3406	2609	2506	1369	1814	1002	958	1300	938
Ethylbenzene	239	233	282	263	314	225	216	224	160	191	124	122	131	140
Xylenes	727	742	810	825	929	795	763	765	458	638	402	414	400	331
Styrene	3	16	3	0	0	51	0	0	2	0	0	0	0	0
<b>Other Compounds</b>														
Acetone	2	58	0	17	0	0	0	0	0	0	0	3	3	13
2-Butanone	0	0	0	0	0	0	0	0	7	0	0	0	4	0
<b>Total Mass</b>	<b>21711</b>	<b>22721</b>	<b>22739</b>	<b>23828</b>	<b>18952</b>	<b>15637</b>	<b>13889</b>	<b>14867</b>	<b>9769</b>	<b>12166</b>	<b>7167</b>	<b>7325</b>	<b>9580</b>	<b>9938</b>

Notes:

<sup>a</sup>The Theissen method, a method of weighting data from non-uniformly distributed collection points (Fetter, C.W. 2004. *Applied Hydrogeology, Fourth Edition* . Merrill Publishing), was used to evaluate CVOC mass versus time. The CVOC mass associated with each well was estimated by:  $M = C(ADn)$

Where M = contaminant mass

C = Measured concentration

A = Area of polygon (i.e., area of influence of well)

D = Depth of groundwater (thickness)

n = porosity

Petroleum-related VOC benzene is not a site-related constituent; however, it is included as part of the annual sampling.



Table 3-8. Individual VOC Compound Mass Estimate (kg) – 2018 Onsite Monitoring Wells

THAN Davenport Site, 2040 West River Drive

Mass <sup>a</sup> (Kilograms)	Jun-05	Jun-06	Oct-07	Jul-08	Jun-09	Jun-10	Jun-11	Jun-12	Jun-13	Jun-14	Jun-15	Jun-16	Jun-17	Jun-18
<b>CVOC Parent Compounds</b>														
1,1,1 trichloroethane	314	324	303	283	91	72	53	55	56	59	35	24	60	44
Methylene Chloride	72	71	69	103	52	38	14	13	3	214	10	2	223	117
Tetrachloroethene	167	170	165	100	54	71	39	46	34	27	22	26	32	33
Trichloroethene	173	174	171	81	40	27	12	13	15	65	6	7	11	9
<b>CVOC Daughter Products</b>														
cis-1,2-Dichloroethene	654	655	696	779	528	437	387	368	430	503	412	423	442	432
trans-1,2-Dichloroethene	1	2	1	0	0	0	0	1	1	1	1	1	1	1
1,1-Dichloroethene	19	19	18	14	3	4	3	4	5	3	4	3	4	4
Vinyl Chloride	56.4	53.1	56.9	62.4	58.1	48.7	32.1	36.5	37.8	46.9	39	45	86	55
1,1-Dichloroethane	27.0	24.8	26.1	29.0	22.2	18.3	15.2	18.0	15.5	17.2	14	12	19	15
1,2-Dichloroethane	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chloroethane	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<b>Aromatics</b>														
Benzene	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Toluene	236	234	233	262	142	151	89	44	30	56	23	10	40	27
Ethylbenzene	13	12	13	14	11	10	10	7	7	8	5	4	5	5
Xylenes	46	46	47	50	35	33	29	22	20	38	15	13	15	12
Styrene	1	1	1	0	0	1	0	0	0	0	0	0	0	0
<b>Other Compounds</b>														
Acetone	0	1	0	7	0	0	0	0	0	0	0	0	0	3
2-Butanone	0	0	0	0	0	0	0	0	0	0	0	0	2	0
<b>Total Mass</b>	<b>1778</b>	<b>1789</b>	<b>1801</b>	<b>1784</b>	<b>1037</b>	<b>911</b>	<b>683</b>	<b>627</b>	<b>656</b>	<b>1038</b>	<b>587</b>	<b>571</b>	<b>942</b>	<b>759</b>

Notes:

<sup>a</sup>The Theissen method, a method of weighting data from non-uniformly distributed collection points (Fetter, C.W. 2004. *Applied Hydrogeology, Fourth Edition* . Merrill Publishing), was used to evaluate CVOC mass versus time. The CVOC mass associated with each well was estimated by:  $M = C(ADn)$

Where M = contaminant mass

C = Measured concentration

A = Area of polygon (i.e., area of influence of well)

D = Depth of groundwater (thickness)

n = porosity

Petroleum-related VOC benzene is not a site-related constituent; however it is included as part of the annual sampling.



Table 3-9. Screening for Anaerobic Biodegradation Processes and Interpretation of Screening Results in the Shallow Bedrock Zone —2018

THAN Davenport Site, 2040 West River Drive

	Preferred Concentration Indicating Anaerobic Biodegradation <sup>a</sup>	Frequency of Detection	Range in Concentration: units consistent with "preferred Concentration" column		Number of Samples in Preferred Concentrati on Range	Interpretation <sup>a</sup>	Value <sup>a</sup>	Points Awarded for 2018 Shallow Bedrock Zone <sup>a,b</sup>
Volatile Organics								
Total BTEX	>100 µg/L	3/6	ND	50,959	1/6	Carbon and energy source; drives dechlorination.	2	0
Benzene	--	--	--	--	--		--	--
Ethylbenzene	--	--	--	--	--		--	--
Toluene	--	--	--	--	--		--	--
Xylenes, Total	--	--	--	--	--		--	--
1,1,1-Trichloroethane	NA if released material	1/6	ND	10,000	NA	Material released.	NA	NA
Dichloroethane	*	3/6	ND	12,023	3/6	Daughter product of TCA under reducing conditions.	2	2
1,1-Dichloroethane	--	--	--	--	--		--	--
1,2-Dichloroethane	--	--	--	--	--		--	--
Chloroethane	*	3/6	ND	200	3/6	Daughter product of DCA or VC under reducing conditions.	2	2
Dichloroethene	*	3/6	ND	111,086	3/6	Daughter product of TCE; If cis is > 80% of total DCE it is likely a daughter product, 1,1DCE can be chemical reaction product of TCA.	2	2
cis-1,2-Dichloroethene	--	--	--	--	--		--	--
trans-1,2-Dichloroethene	--	--	--	--	--		--	--
1,1-Dichloroethene	--	--	--	--	--		--	--
Tetrachloroethene	NA if released material	0/6	ND	ND	0/6	Material released.	NA	NA
Trichloroethene	NA if released material	0/6	ND	ND	0/6	Material released.	NA	NA
Trichloroethene	*	0/6	ND	ND	0/6	Daughter product of PCE.	NA	0
Vinyl Chloride	*	3/6	ND	22,000	3/6	Daughter product of DCE.	2	2



Table 3-9. Screening for Anaerobic Biodegradation Processes and Interpretation of Screening Results in the Shallow Bedrock Zone —2018

THAN Davenport Site, 2040 West River Drive

	Preferred Concentration Indicating Anaerobic Biodegradation <sup>a</sup>	Frequency of Detection	Range in Concentration: units consistent with "preferred Concentration" column		Number of Samples in Preferred Concentrati on Range	Interpretation <sup>a</sup>	Value <sup>a</sup>	Points Awarded for 2018 Shallow Bedrock Zone <sup>a,b</sup>
General Chemistry								
Alkalinity, Total (As CaCO3)	> 2x background (>660 mg/L)	6/6	340	660	0/6	Results from interaction between CO <sub>2</sub> and aquifer materials.	1	0
Chloride (As Cl)	> 2x background (>88 mg/L)	6/6	35	310	5/6	Daughter product of organic chlorine.	2	2
Ethane	Total Ethene, Ethane is > 10 µg/L, or >100 µg/L	6/6	3	2,000	6/6 > 10 µg/L; 3/6 >	Daughter product of VC/ethene.	2 or 3, respectively	3
Ethene		3/6	ND	2,700	100 µg/L	Daughter product of VC/ethene.		
Ferrous Iron (Iron II)	>1 mg/L	4/6	ND	1.2	1/6	Reductive pathway possible; VC may be oxidized under Fe (III)-reducing conditions.	3	0
Methane	>500 µg/L	6/6	170	13,000	3/6	Ultimate reductive daughter product, VC accumulates.	3	3
Nitrogen, Nitrate (As N)	<1 mg/L	0/6	ND	ND	5/6	At higher concentrations, may compete with reductive pathway.	2	2
Sulfate (As SO4)	<20 mg/L	4/6	ND	110	2/6	At higher concentrations, may compete with reductive pathway.	2	0
Sulfide	> 1 mg/L	3/6	ND	27	1/6	Reductive pathway possible.	3	0
Total Organic Carbon	> 20 mg/L	6/6	2.2	15	0/6	Carbon and energy source; drives dechlorination; can be natural or anthropogenic.	2	0



**Table 3-9. Screening for Anaerobic Biodegradation Processes and Interpretation of Screening Results in the Shallow Bedrock Zone —2018**

THAN Davenport Site, 2040 West River Drive

Appendix 1: Data Summary for 2018 Shallow Bedrock Zone								
	Preferred Concentration Indicating Anaerobic Biodegradation <sup>a</sup>	Frequency of Detection	Range in Concentration: units consistent with "preferred Concentration" column		Number of Samples in Preferred Concentrati on Range	Interpretation <sup>a</sup>	Value <sup>a</sup>	Points Awarded for 2018 Shallow Bedrock Zone <sup>a,b</sup>
Field Parameters								
Dissolved Oxygen	<0.5 mg/L	6/6	0.27	0.55	5/6	Tolerated, suppresses the reductive pathway at higher concentrations.	3	3
Dissolved Oxygen	>5 mg/L	6/6	0.27	0.55	0/6	Not tolerated, however, VC may be oxidized aerobically.	-3	0
Oxidation Reduction Potential	< 50 mV	6/6	-149.3	61.8	5/6	Reductive pathway possible.	1 or 2, respectively	1
Oxidation Reduction Potential	< -100 mV	6/6	-149.3	61.8	1/6	Reductive pathway likely.		
pH	5 < pH < 9	6/6	6.22	7.14	6/6	Optimal range for reductive pathway.	0	0
pH	5 > pH > 9	6/6	6.22	7.14	0/6	Outside optimal range for reductive pathway.	-2	0
Temperature	> 20C	6/6	15.87	17.48	0/6	At T 20C, biochemical process is accelerated.	1	0

Notes: STRONG evidence for Biodegradation of Chlorinated Solvents<sup>a</sup>: 22

<sup>a</sup> See Tables 2.3 and 2.4 in *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water*, EPA/600/R-98/128.

<sup>b</sup> Points awarded only when 50 percent or more of results for a particular parameter for the wells indicated were at the preferred concentration.

mg/L = milligrams per liter

NA = not applicable

mV = millivolts

µg/L = micrograms per liter

ND = not detected

BTEX concentration is the sum of the detected concentrations only.

Wells BW-01 and BW-18 used as upgradient background wells for the shallow bedrock zone and therefore not used in screening table. Wells BW-09 and BW-11 are cross-gradient of the site and therefore not used in the screening table.

\*If the constituent is detected in at least half of the wells within the zone of affected groundwater, points are assigned.



THAN Davenport Site, 2040 West River Drive

Notes:  
ft = feet  
mg/L = milligrams per liter  
LTMP = Long Term Monitoring Plan  
NS = Location not sampled.

<sup>a</sup> Permanganate concentrations were measured using a Hach DR 890 Colorimeter (a spectrophotometer) at the time of sampling. Permanganate concentrations are only measured at onsite LTMP wells that are sampled.

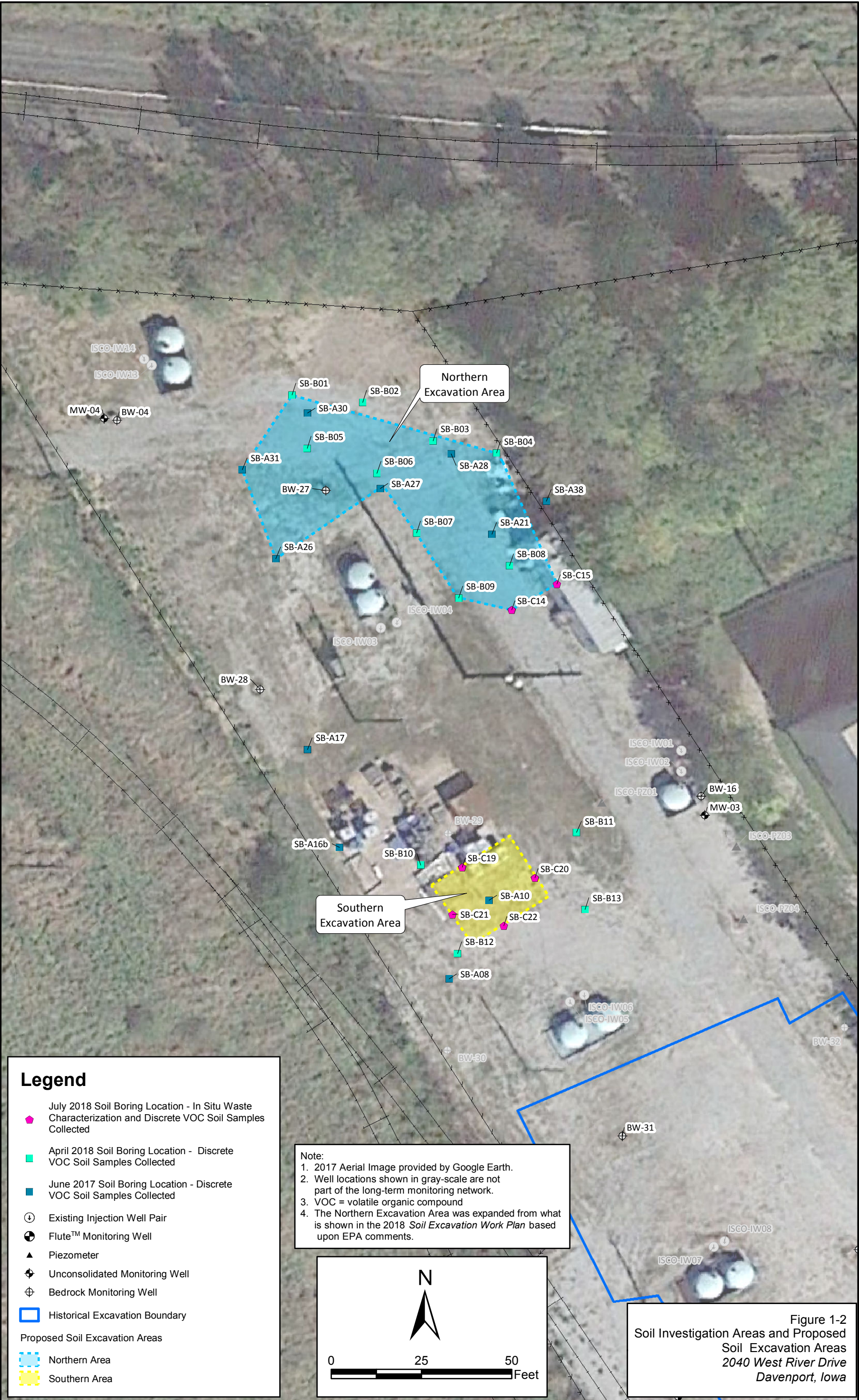


Figures









**Legend**

- July 2018 Soil Boring Location - In Situ Waste Characterization and Discrete VOC Soil Samples Collected
- April 2018 Soil Boring Location - Discrete VOC Soil Samples Collected
- June 2017 Soil Boring Location - Discrete VOC Soil Samples Collected
- Existing Injection Well Pair
- Flute™ Monitoring Well
- Piezometer
- Unconsolidated Monitoring Well
- Bedrock Monitoring Well
- Historical Excavation Boundary
- Proposed Soil Excavation Areas
  - Northern Area
  - Southern Area

Note:  
1. 2017 Aerial Image provided by Google Earth.  
2. Well locations shown in gray-scale are not part of the long-term monitoring network.  
3. VOC = volatile organic compound  
4. The Northern Excavation Area was expanded from what is shown in the 2018 *Soil Excavation Work Plan* based upon EPA comments.

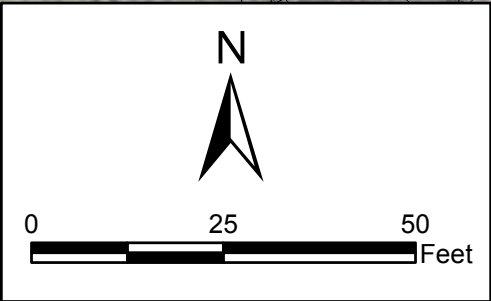
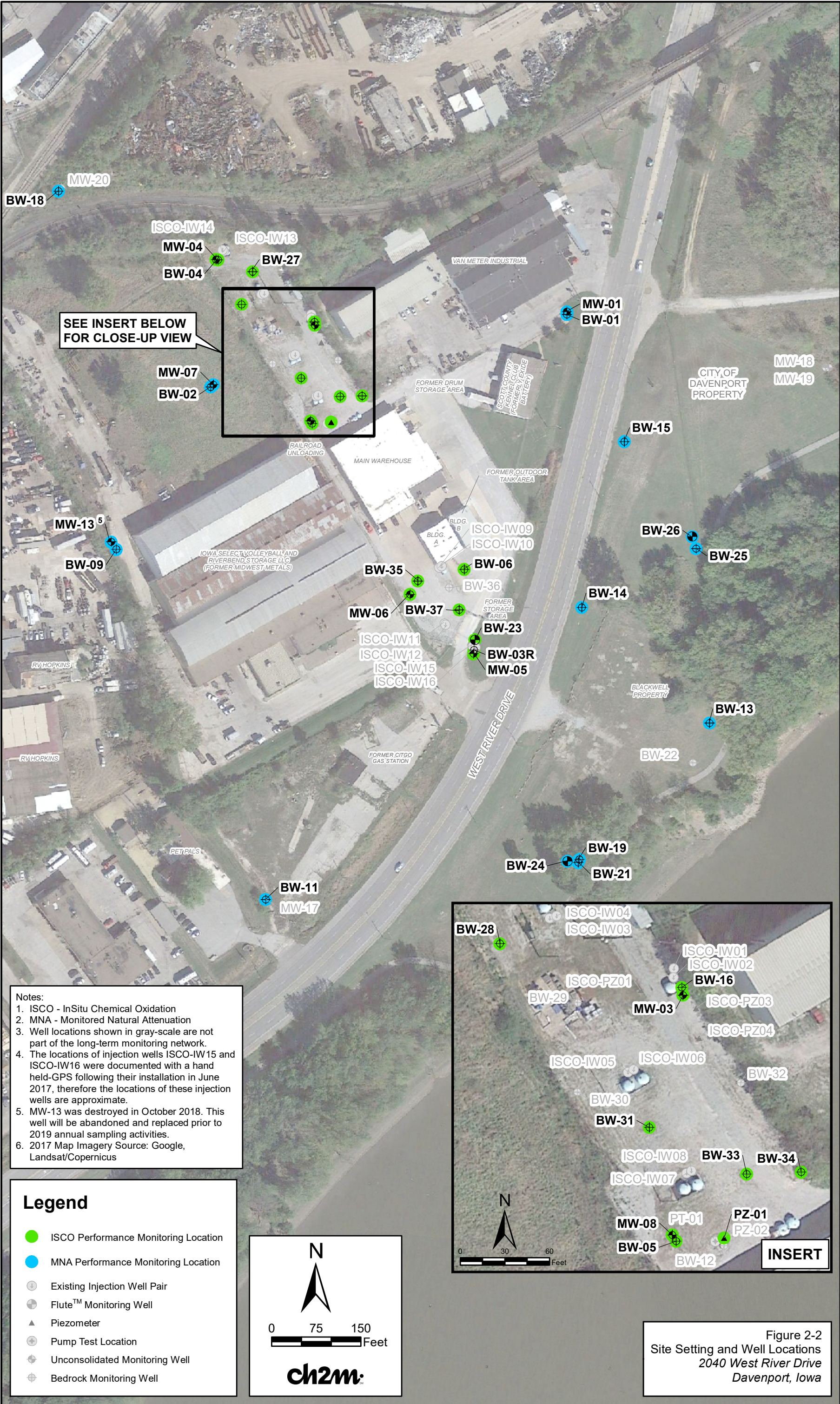


Figure 1-2  
Soil Investigation Areas and Proposed  
Soil Excavation Areas  
2040 West River Drive  
Davenport, Iowa

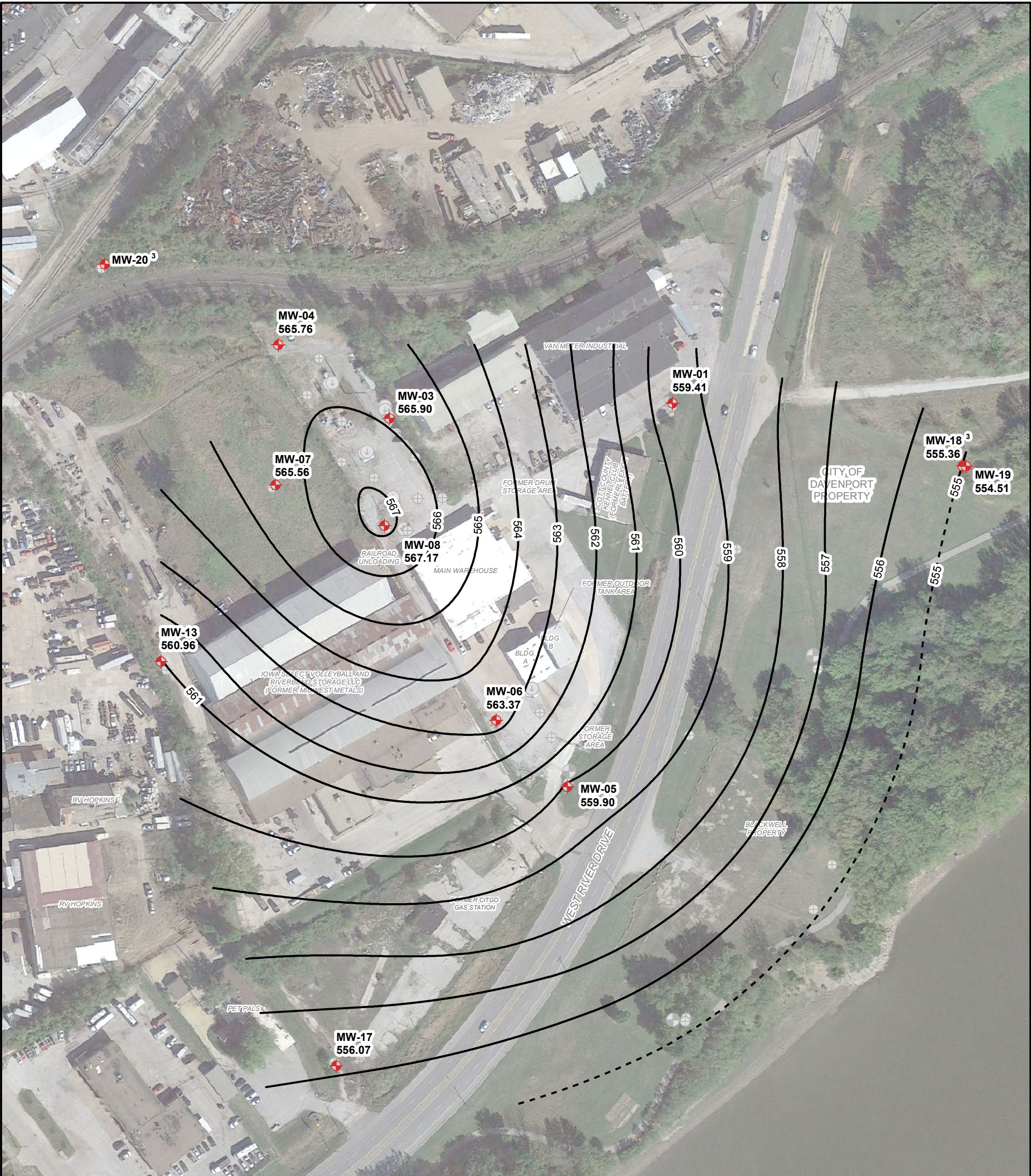












- Notes:
1. Water elevations in feet above mean sea level (amsl).
  2. Water elevation data on June 11, 2018 from Mississippi River at Lock and Dam 15 (Rock Island, IL) gauge was 554.11 ft. amsl. Source U.S. Army Corps of Engineers (USACE). Water levels of Rivers and Lakes, Mississippi at Lock and Dam 15 approximately 1 mile upstream of 2040 W. River Drive. Source: <http://http://rivergages.mvr.usace.army.mil/WaterControl/stationinfo2.cfm>, accessed on August 21, 2018.
  3. The groundwater elevation at MW-18 is excluded from contouring because the wells is screened deeper than the other unconsolidated zone monitoring wells. Access was not granted to MW-20 in June 2018, therefore, groundwater level measurements were collected on September 13, 2018. These measurements are excluded from contouring.
  4. Monitoring well MW-13 was destroyed in October 2018. This well is proposed to be replaced prior to June 2019 sampling activities.
  5. 2017 Map Imagery Source: Google, Landsat/Copernicus

Mississippi River  
(Approximate Elevation was  
554.11 ft amsl on June 11, 2018)

Legend

- Injection Well
- Flute™ Monitoring Well
- Piezometer
- Pilot Boring
- Pump Test Location
- Unconsolidated Monitoring Well
- June 2018 Unconsolidated Potentiometric Contour (Dashed Where Inferred)

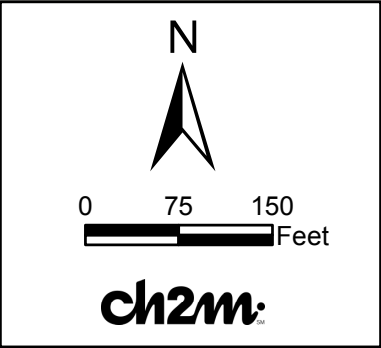
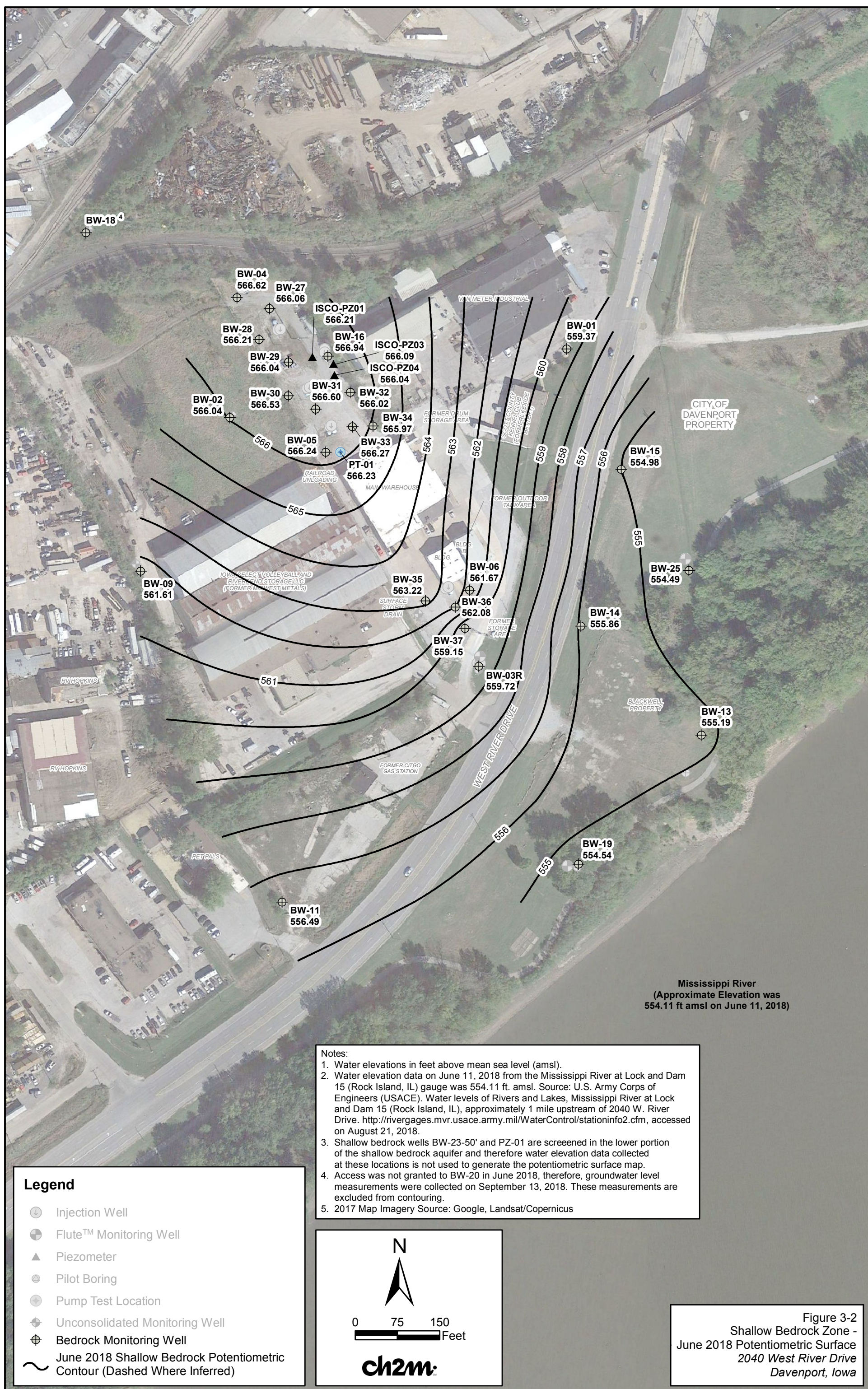
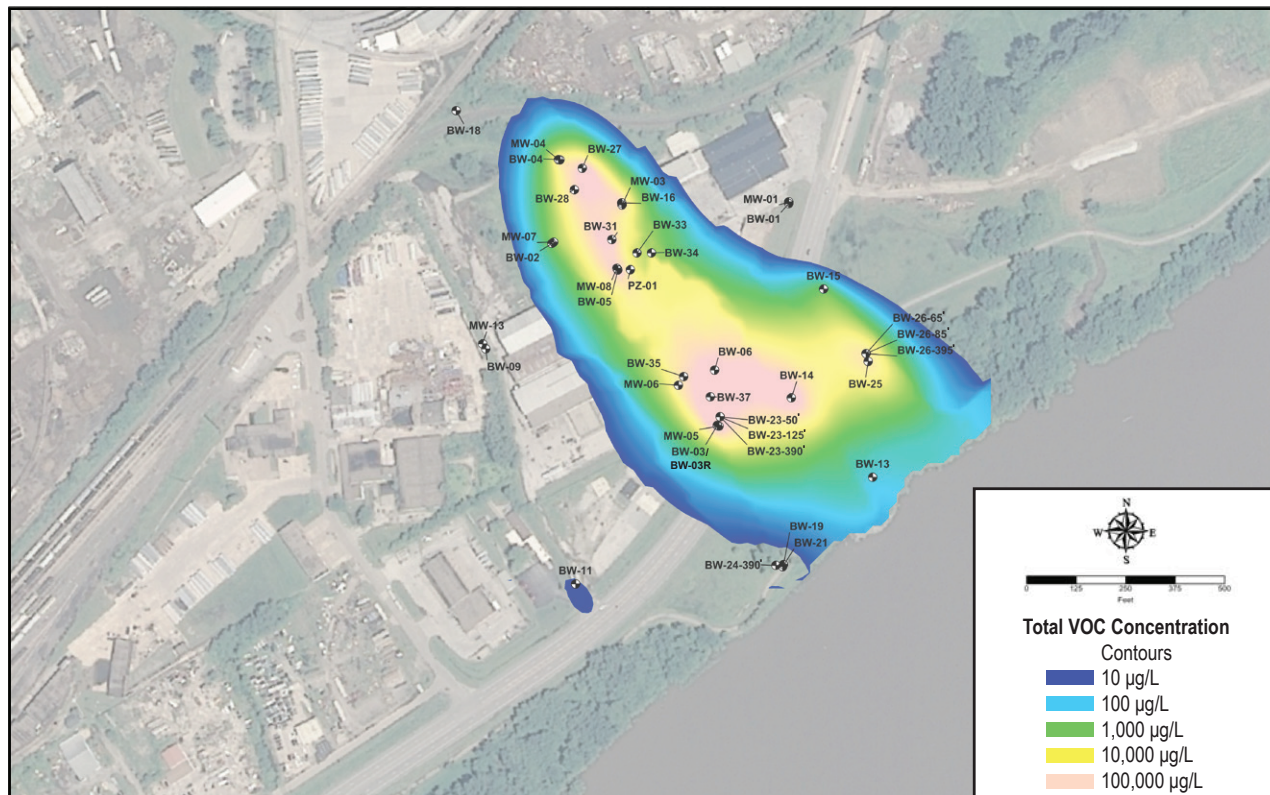


Figure 3-1  
Unconsolidated Zone -  
June 2018 Potentiometric Surface  
2040 West River Drive  
Davenport, Iowa

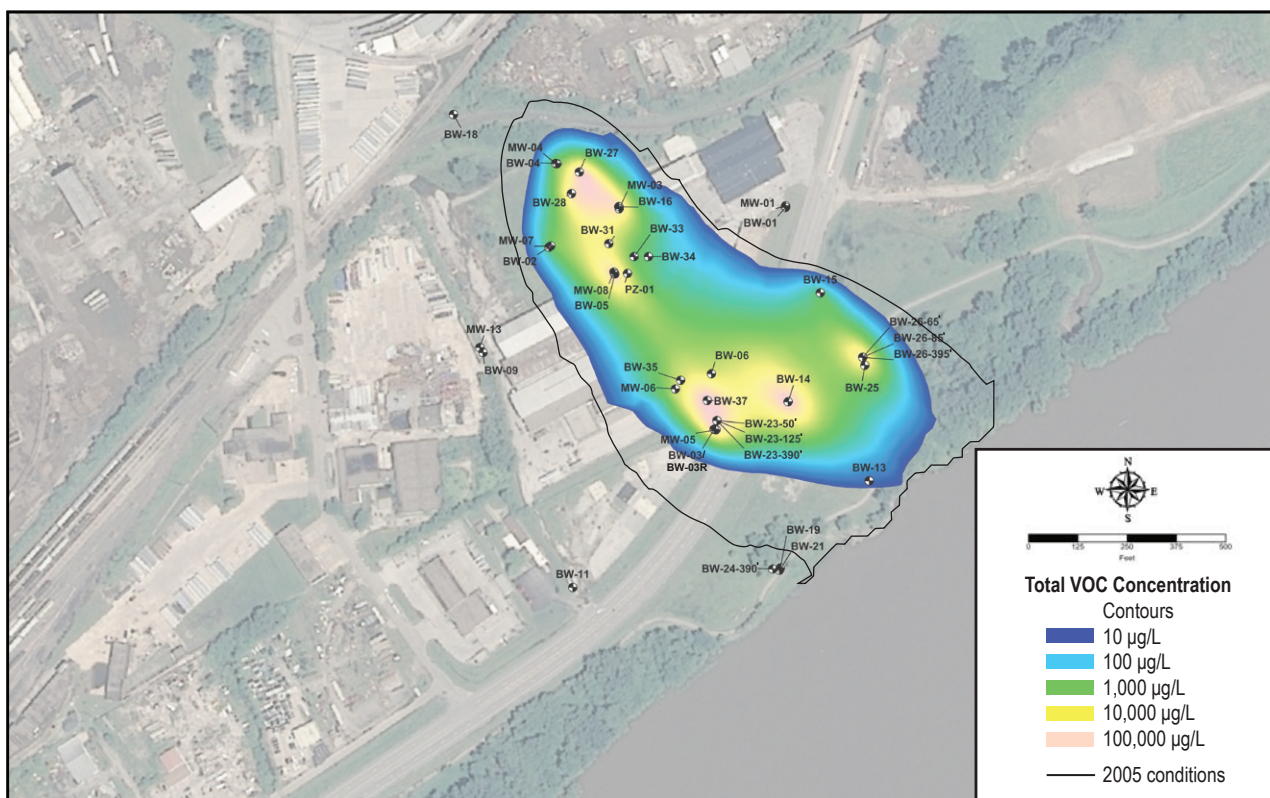








2005 (Pre-soil treatment, pre-full scale ISCO injection conditions)

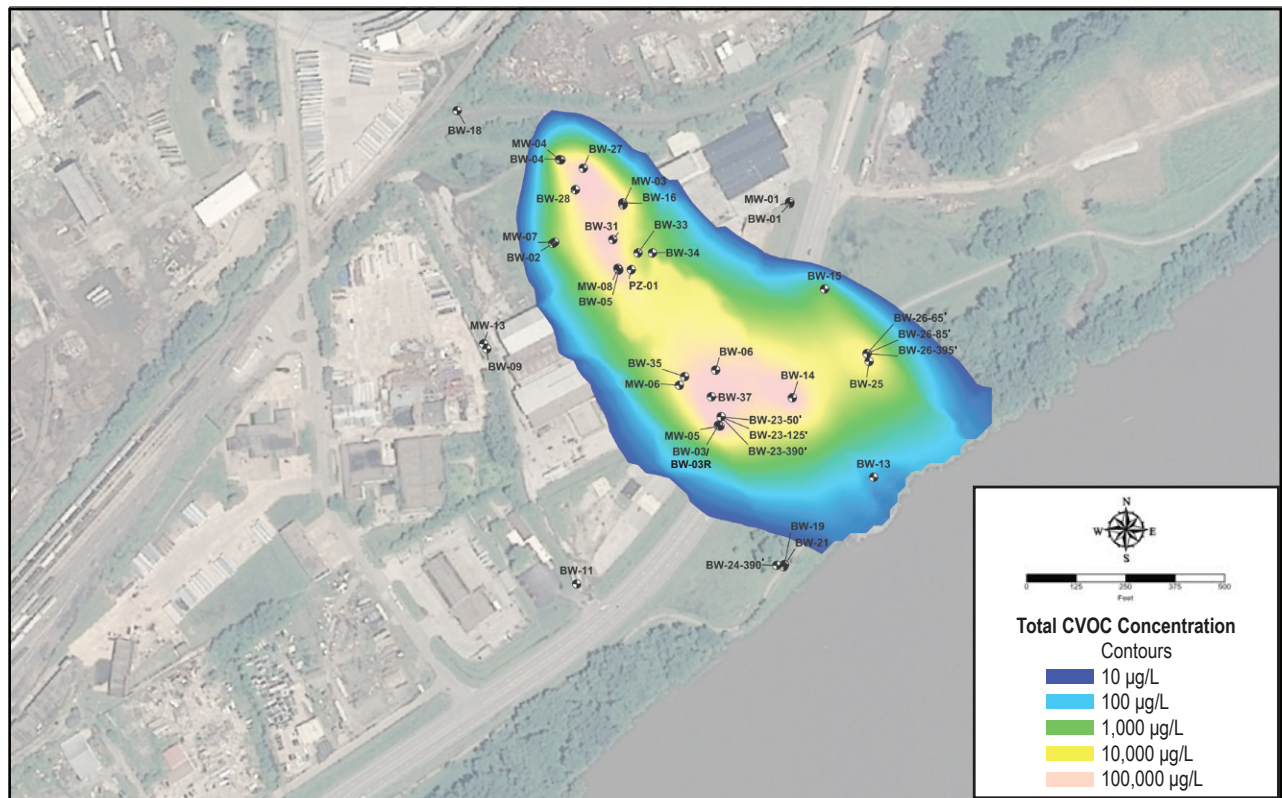


2018 (Current Conditions)

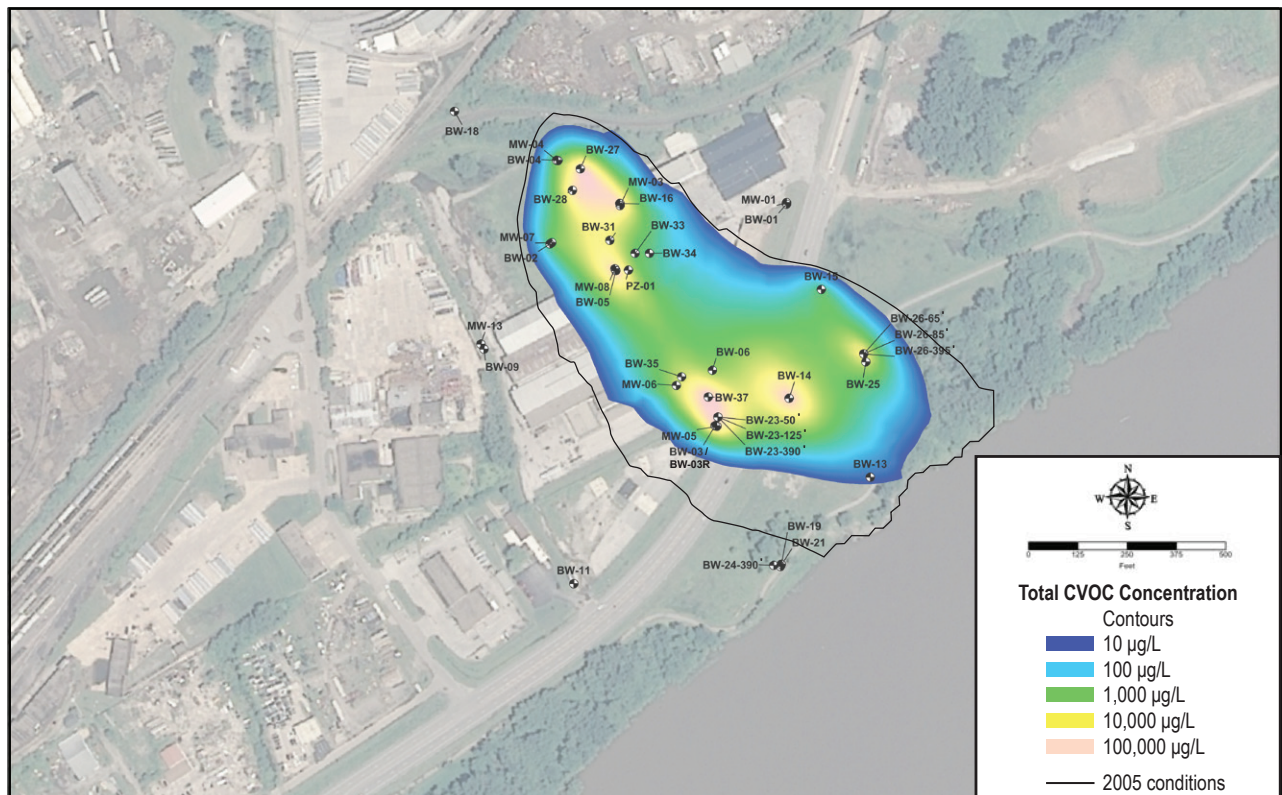
Note:  
Isosurfaces are based on the 3-D isovolume that was generated based on kriging of each data set using the GSLIB (Deutsch and Journal, 1992) geostatistical algorithms as implemented within the Stanford Geostatistical Modeling Software version 2.1 (SGEMS) (Remy, 2009).

Figure 3-3  
Total VOCs in Groundwater –  
2005 Versus 2018  
2040 West River Drive  
Davenport, Iowa





2005 (Pre-soil treatment, pre-full scale ISCO injection conditions)



2018 (Current Conditions)

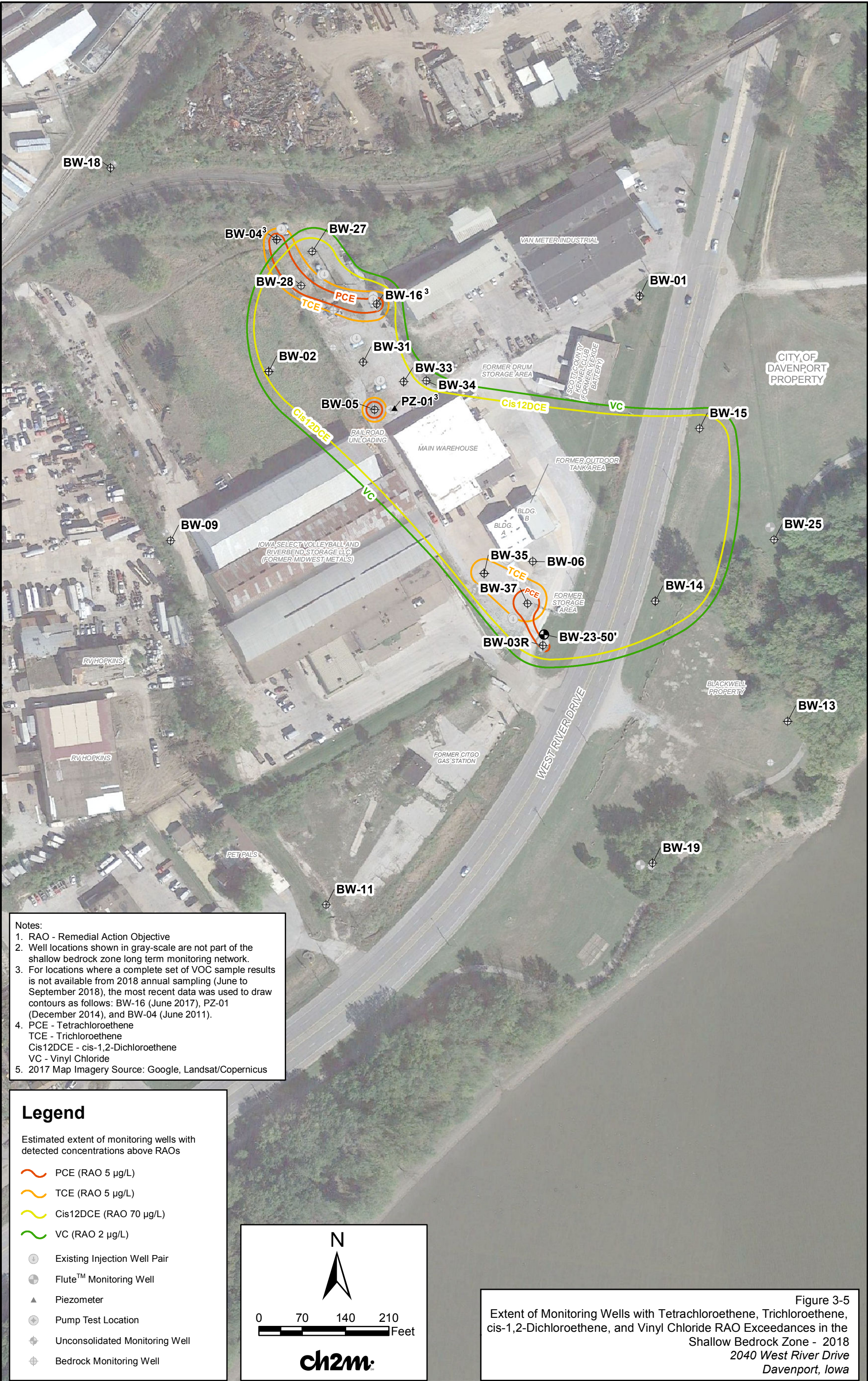
**Note:**

Isosurfaces are based on the 3-D isovolume that was generated based on kriging of each data set using the GSLIB (Deutsch and Journal, 1992) geostatistical algorithms as implemented within the Stanford Geostatistical Modeling Software version 2.1 (SGeMS) (Remy, 2009).

The total CVOCs concentration is the sum of 1,1,1-trichloroethane; tetrachloroethene; trichloroethylene; methylene chloride, 1,1-dichloroethane; 1,1-dichloroethene; 1,2-dichloroethane; cis-1,2-dichloroethene; trans-1,2-dichloroethene; chloroethane; and vinyl chloride.

Figure 3-4  
Total CVOCs in Groundwater –  
2005 Versus 2018  
2040 West River Drive  
Davenport, Iowa





Notes:

1. RAO - Remedial Action Objective
2. Well locations shown in gray-scale are not part of the shallow bedrock zone long term monitoring network.
3. For locations where a complete set of VOC sample results is not available from 2018 annual sampling (June to September 2018), the most recent data was used to draw contours as follows: BW-16 (June 2017), PZ-01 (December 2014), and BW-04 (June 2011).
4. PCE - Tetrachloroethene  
TCE - Trichloroethene  
Cis12DCE - cis-1,2-Dichloroethene  
VC - Vinyl Chloride
5. 2017 Map Imagery Source: Google, Landsat/Copernicus

Legend

Estimated extent of monitoring wells with detected concentrations above RAOs

- PCE (RAO 5 µg/L)
- TCE (RAO 5 µg/L)
- Cis12DCE (RAO 70 µg/L)
- VC (RAO 2 µg/L)
- Existing Injection Well Pair
- Flute™ Monitoring Well
- Piezometer
- Pump Test Location
- Unconsolidated Monitoring Well
- Bedrock Monitoring Well

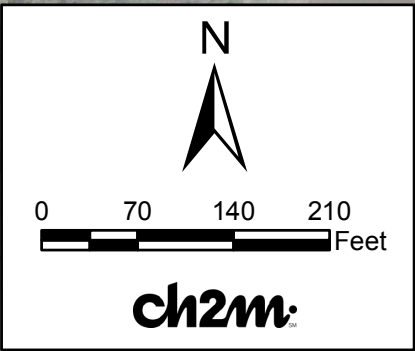
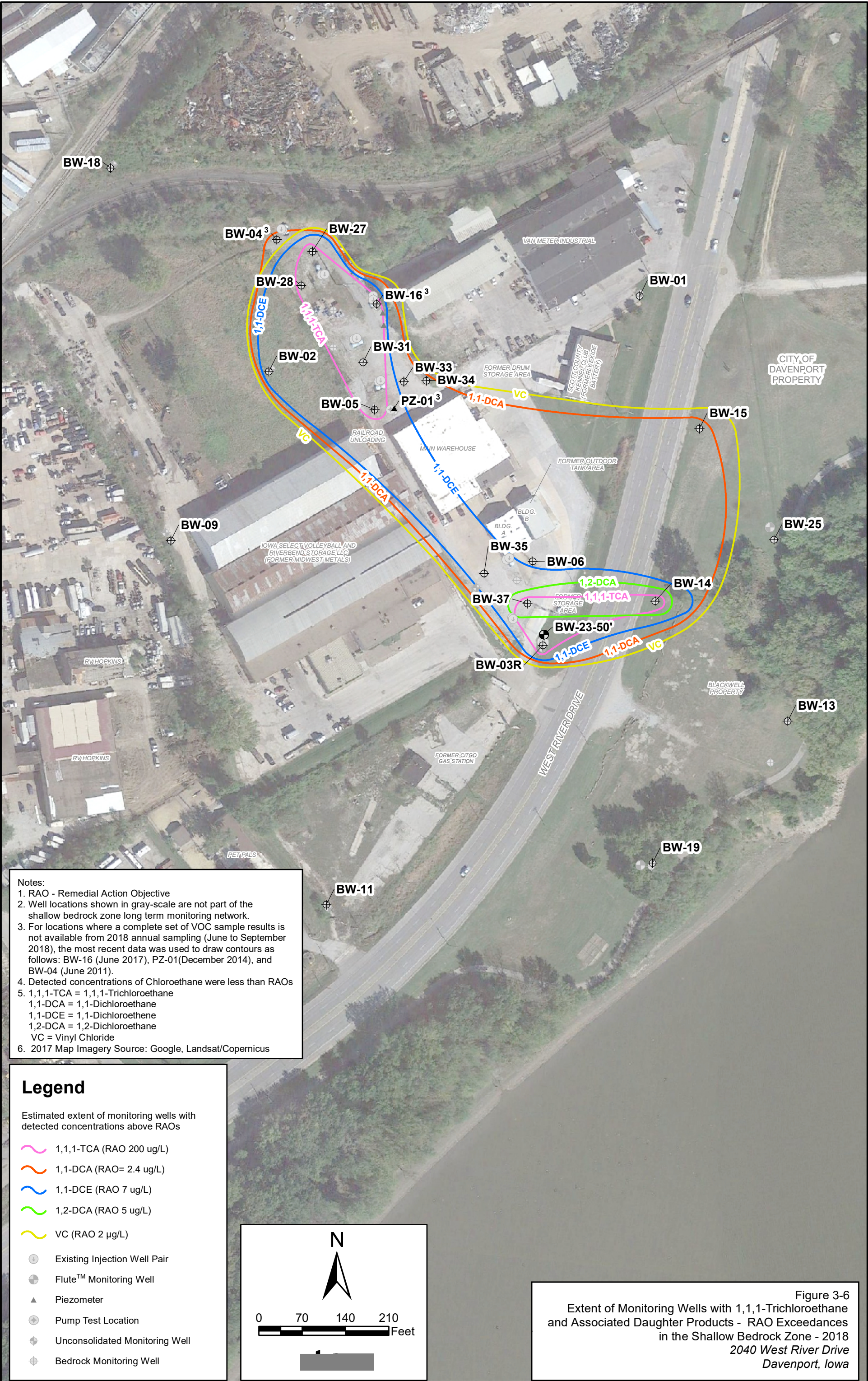


Figure 3-5  
Extent of Monitoring Wells with Tetrachloroethene, Trichloroethene, cis-1,2-Dichloroethene, and Vinyl Chloride RAO Exceedances in the Shallow Bedrock Zone - 2018  
2040 West River Drive  
Davenport, Iowa





- Notes:
1. RAO - Remedial Action Objective
  2. Well locations shown in gray-scale are not part of the shallow bedrock zone long term monitoring network.
  3. For locations where a complete set of VOC sample results is not available from 2018 annual sampling (June to September 2018), the most recent data was used to draw contours as follows: BW-16 (June 2017), PZ-01(December 2014), and BW-04 (June 2011).
  4. Detected concentrations of Chloroethane were less than RAOs
  5. 1,1,1-TCA = 1,1,1-Trichloroethane  
1,1-DCA = 1,1-Dichloroethane  
1,1-DCE = 1,1-Dichloroethene  
1,2-DCA = 1,2-Dichloroethane  
VC = Vinyl Chloride
  6. 2017 Map Imagery Source: Google, Landsat/Copernicus

### Legend

Estimated extent of monitoring wells with detected concentrations above RAOs

- 1,1,1-TCA (RAO 200 ug/L)
- 1,1-DCA (RAO= 2.4 ug/L)
- 1,1-DCE (RAO 7 ug/L)
- 1,2-DCA (RAO 5 ug/L)
- VC (RAO 2 ug/L)

- Existing Injection Well Pair
- Flute™ Monitoring Well
- Piezometer
- Pump Test Location
- Unconsolidated Monitoring Well
- Bedrock Monitoring Well

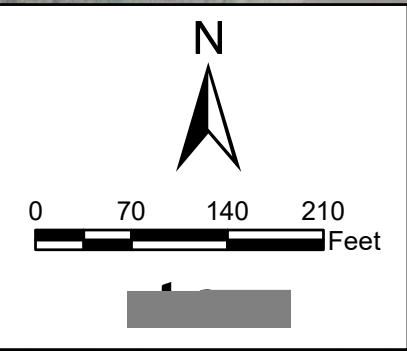
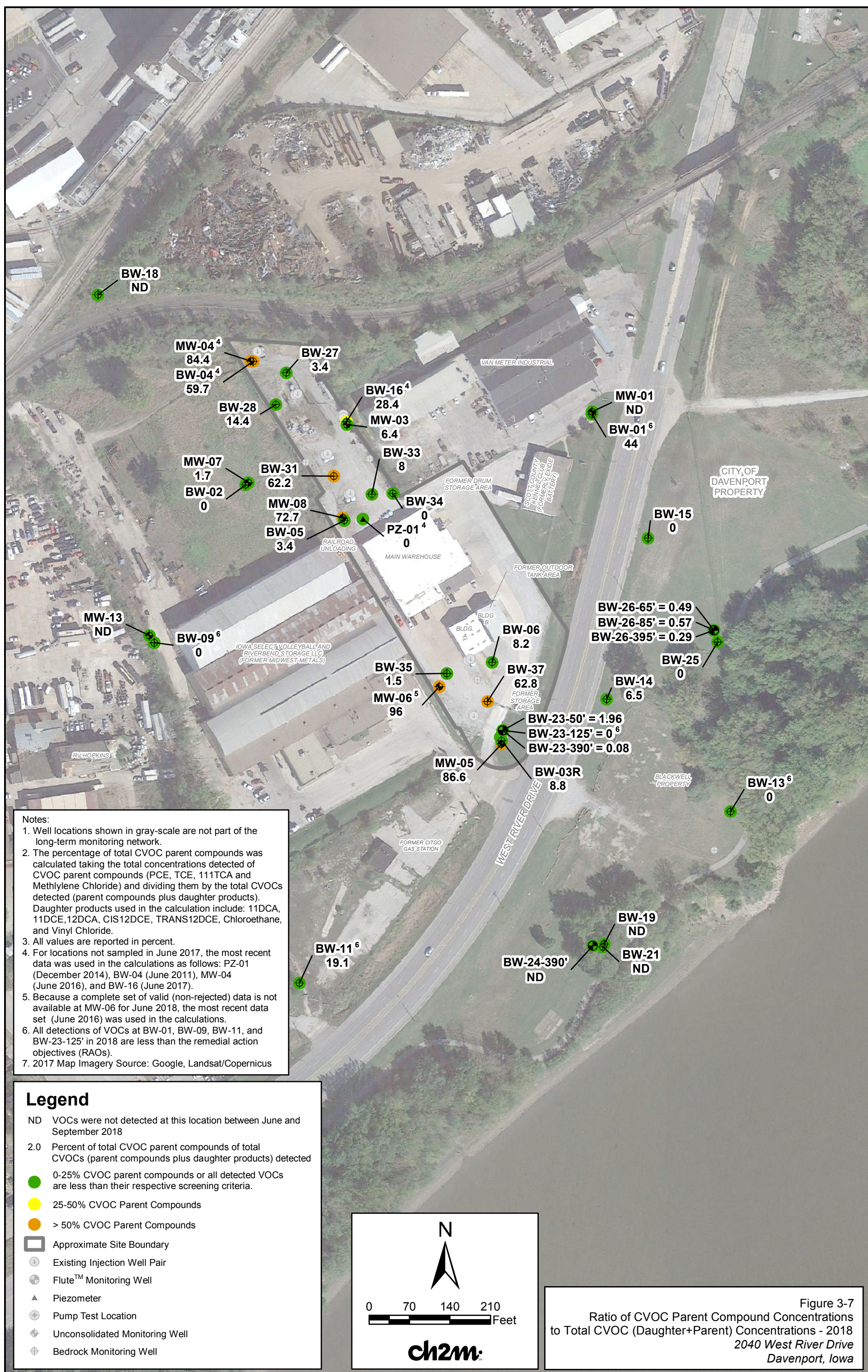
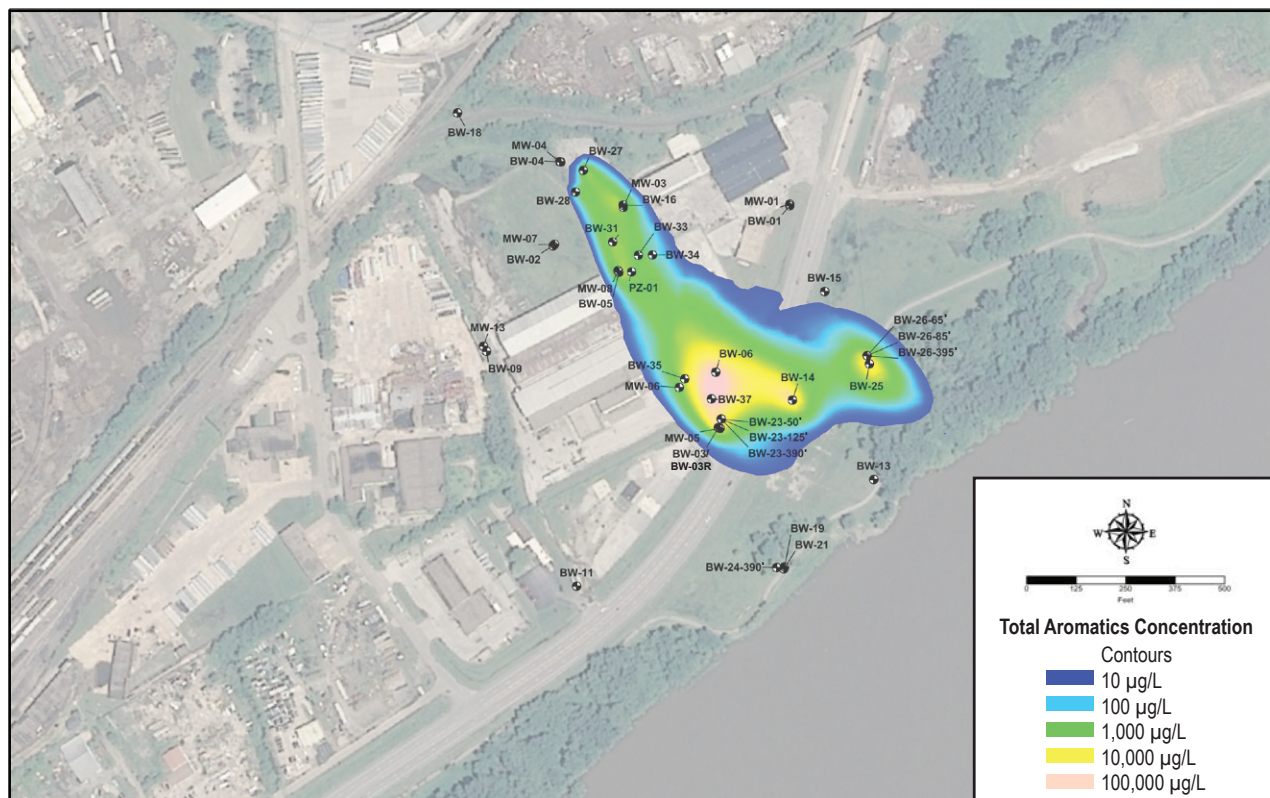


Figure 3-6  
Extent of Monitoring Wells with 1,1,1-Trichloroethane  
and Associated Daughter Products - RAO Exceedances  
in the Shallow Bedrock Zone - 2018  
2040 West River Drive  
Davenport, Iowa

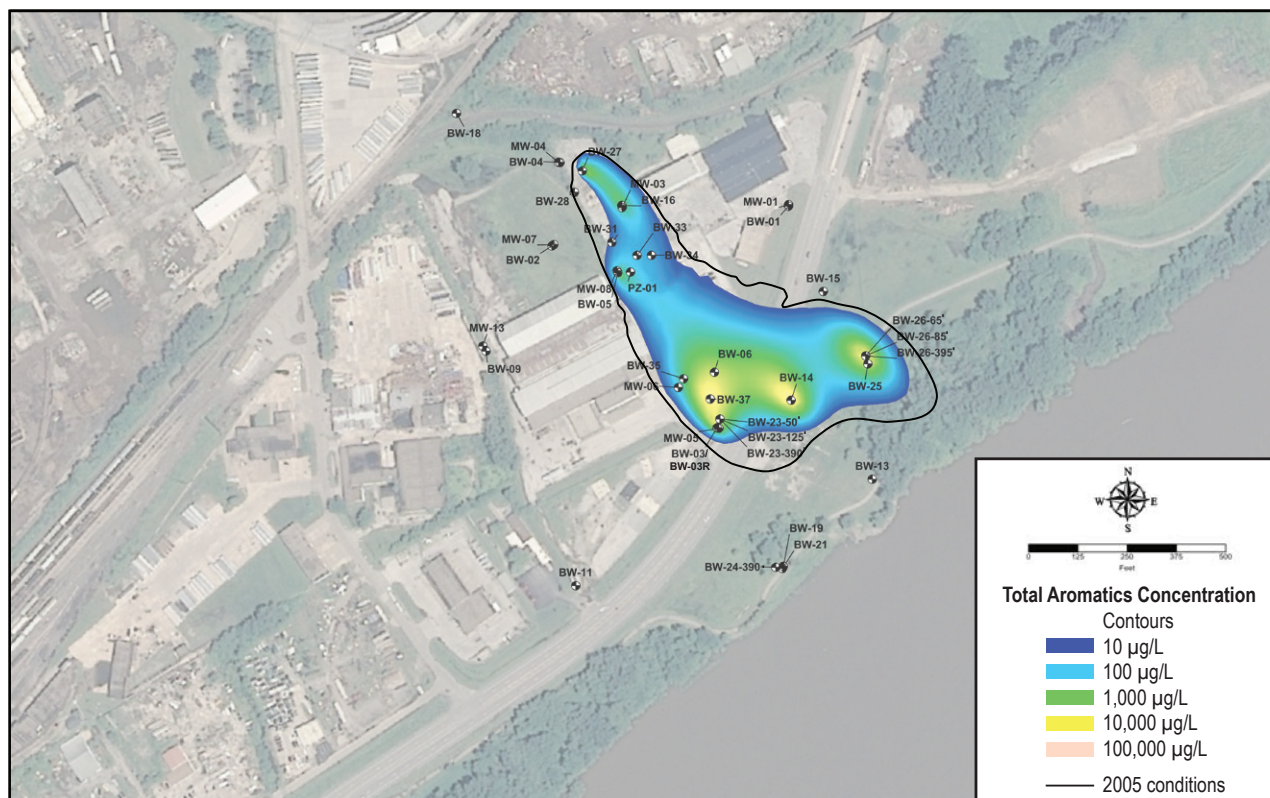








2005 (Pre-soil treatment, pre-full scale ISCO injection conditions)



2018 (Current Conditions)

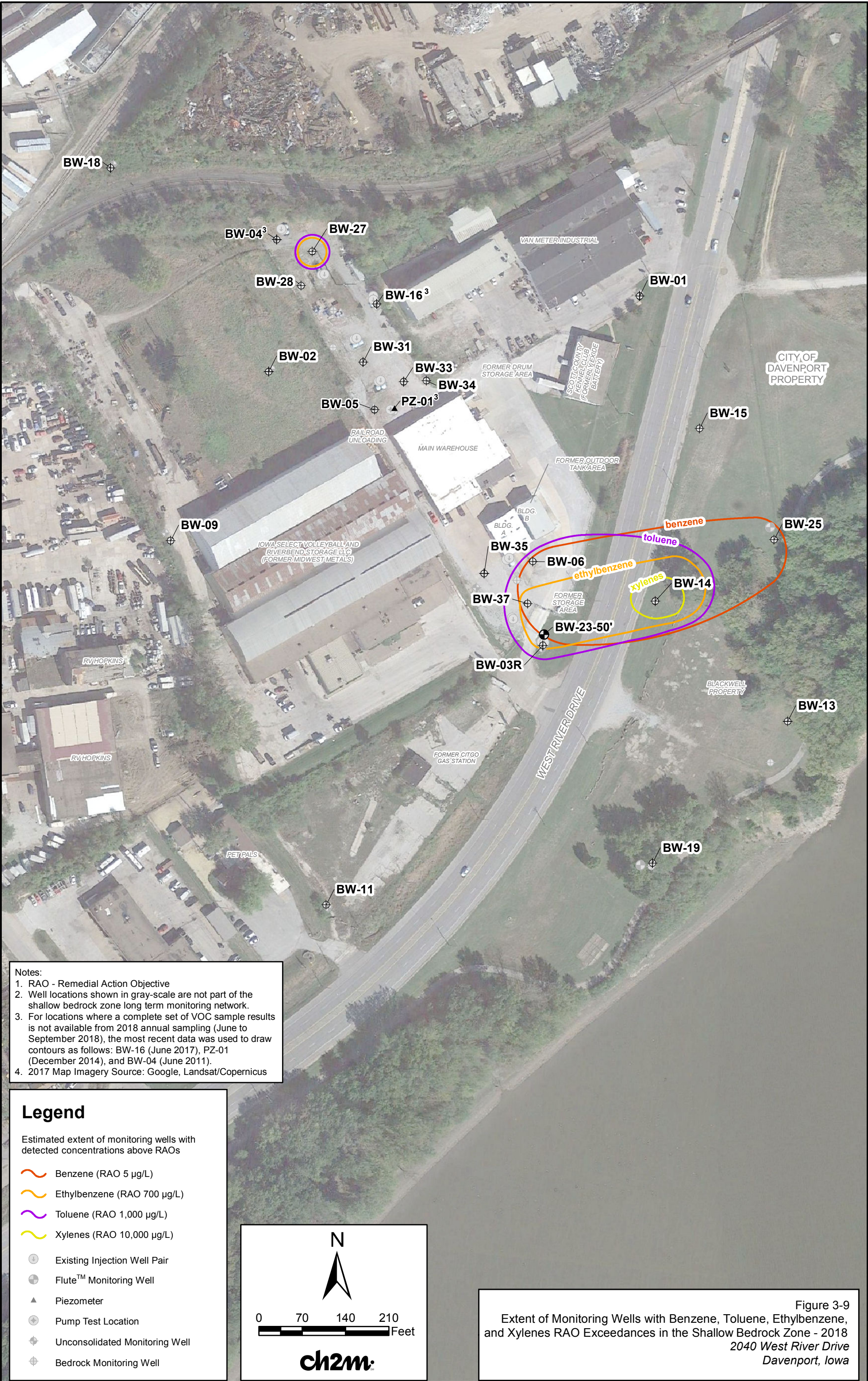
**Note:**

Isosurfaces are based on the 3-D isovolume that was generated based on kriging of each data set using the GSLIB (Deutsch and Journal, 1992) geostatistical algorithms as implemented within the Stanford Geostatistical Modeling Software version 2.1 (SGeMS) (Remy, 2009).

The total aromatics concentration is the sum of benzene, ethylbenzene, styrene, toluene, and total xylene concentrations.

Figure 3-8  
Total Aromatics in Groundwater –  
2005 Versus 2018  
2040 West River Drive  
Davenport, Iowa







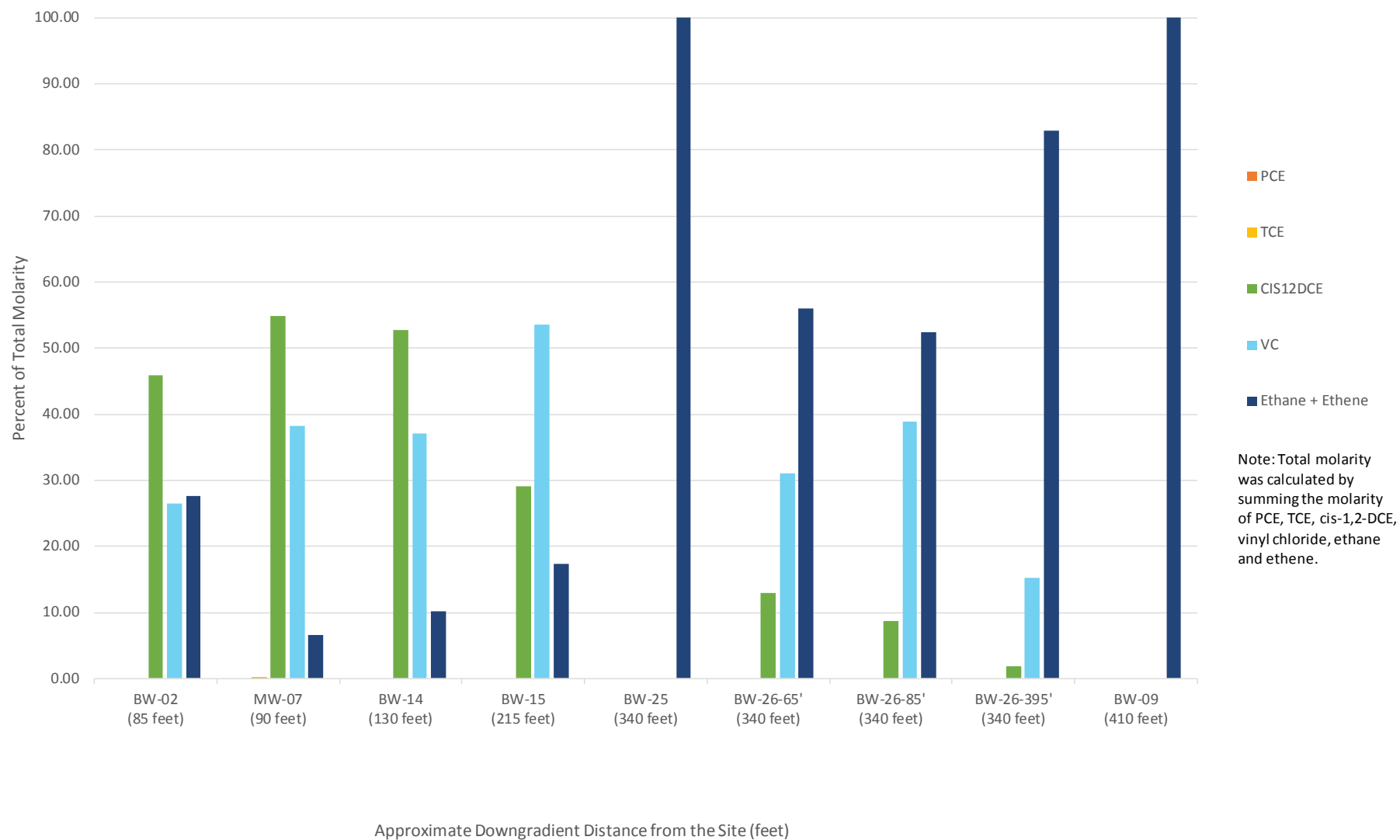


Figure 3-10  
Percent Molarity Contribution of Individual Compounds at Offsite Well Locations  
with Detected Concentrations of One or More VOCs above RAOs – 2018  
2040 West River Drive,  
Davenport, Iowa



# Appendix A

## Field Documentation



# Groundwater Water Level Measurement Forms



# Groundwater Level Measurement Form

Location	Date Measured	Time Measured	Measured Depth to Water (ft)	Measured depth to bottom (ft)	Measured depth to product (ft)	PID-Total VOCs (ppm)	Comments (note observations of permaganate, needed well repairs, ect.)
<b>Onsite Wells</b>							
BW-03R	6/11/18	1520	5.76	27.98	—	0.0	—
BW-04	6/11/18	1446	5.22	33.77	—	0.0	purple permag on tip of H2O level meter
BW-05	6/11/18	1608	5.09	18.46	—	0.0	Soft bottom → check
BW-06	6/11/18	1550	2.30	22.57	—	6.8	none
BW-12	6/11/18	1622	17.38	106.78	—	0.0	—
BW-16	6/11/18	1539	4.48	33.45	—	0.0	purple permag whole well
BW-23-50'	6/12/18	1546	8.15	NA	NA	NA	flute well
BW-23-90'	6/12/18	1544	10.72	NA	NA	NA	flute well
BW-23-125'	6/12/18	1548	10.66	NA	NA	NA	flute well
BW-23-200'	6/12/18	1050	10.68	NA	NA	NA	flute well
BW-23-290'	6/12/18	1051	10.71	NA	NA	NA	flute well
BW-23-390'	6/12/18	1053	10.83	NA	NA	NA	flute well
BW-27	6/11/18	1454	4.62	40.44	—	212	none
BW-28	6/11/18	1504	3.20	40.39	—	PID died	none
BW-29	6/11/18	1522	3.46	36.71	—	PID died	purple permag in whole well
BW-30	6/11/18	1513	3.64	36.61	—	PID died	purple permag on tip of H2O level meter
BW-31	6/11/18	1625	5.01	36.34	—	0.0	none cant get bolt down bad thread → orange on meter tip
BW-32	6/11/18	1555	4.11	32.05	—	PID died	orange on meter tip bad thread on bolt
BW-33	6/11/18	1608	5.22	33.01	—	PID died	orang on meter tip
BW-34	6/11/18	1601	4.05	37.24	—	PID died	light orange all of well
BW-35	6/11/18	1600	4.83	34.86	—	0.0	—
BW-36	6/11/18	1540	5.20	34.30	—	0.0	*needs to be cut down
BW-37	6/11/18	1551	5.78	34.69	None	0.0	—
MW-03	6/11/18	1537	4.74	7.35	—	0.0	none



# Groundwater Level Measurement Form

Location	Date Measured	Time Measured	Measured Depth to Water (ft)	Measured depth to bottom (ft)	Measured depth to product (ft)	PID-Total VOCs (ppm)	Comments (note observations of permanganate, needed well repairs, ect.)
MW-04	6/11/18	1444	5.60	7.53	—	11.7	well not locked - replace lock
MW-05	6/11/18	1533	6.78	8.58	none	0.0	soft bottom
MW-05	6/11/18	1515	6.00	8.00	none	0.0	—
MW-08	6/11/18	1607	4.19	8.21	none	0.0	—
ISCO-PZ01	6/11/18	1532	5.13	36.23	—	0.0	pink permag on tip of meter
ISCO-PZ03	6/11/18	1547	4.56	37.05	—	PID died	pink all of well
ISCO-PZ04	6/11/18	1531	4.92	37.29	—	PID died	none
PT-01	6/11/18	1620	5.10	39.20	none	0.0	too silty bottom
PZ-01	6/11/18	1614	8.43	53.39	—	PID died	none
PZ-02	6/11/18	1616	14.37	73.0	—	PID died	none

## Offsite Wells

BW-01	6/11/18	1430	11.25	34.10	none	0.0	—
BW-02	6/12/18	1351	4.21	23.95	—	—	none
BW-09	6/12/18	1500	3.91	30.25	—	—	none
BW-11	6/11/18	1325	4.92	26.75	none	0.0	hard bottom
BW-13	6/11/18	1357	11.46	35.81	none	0.0	—
BW-14	6/11/18	1470	12.38	40.08	none	42.6	—
BW-15	6/11/18	1422	12.01	31.19	none	0.0	top casing had to close, nasty
BW-18	not collecting or sampling per PM instructions 6/12/18						
BW-19	6/11/18	1342	7.39	40.20	none	0.0	none
BW-21	6/11/18	1344	7.11	153.97	none	0.0	none
BW-22	6/11/18	1351	10.29	151.11	none	0.0	—
BW-24-175'	6/12/18	1600	7.64	NA	NA	NA	flute well
BW-24-230'	6/12/18	1602	7.44	NA	NA	NA	flute well
BW-24-290'	6/12/18	1604	7.41	NA	NA	NA	flute well
BW-24-390'	6/12/18	1605	7.49	NA	NA	NA	flute well
BW-25	6/11/18	1501	11.79	40.43	none	7.7	—
BW-26-65'	6/12/18	1608	12.12	NA	NA	NA	flute well
BW-26-85'	6/12/18	1610	12.30	NA	NA	NA	flute well
BW-26-205'	6/12/18	1612	12.27	NA	NA	NA	flute well
BW-26-295'	6/12/18	1614	12.26	NA	NA	NA	flute well
BW-26-395'	6/12/18	1617	12.20	NA	NA	NA	flute well



# Groundwater Level Measurement Form

Location	Date Measured	Time Measured	Measured Depth to Water (ft)	Measured depth to bottom (ft)	Measured depth to product (ft)	PID-Total VOCs (ppm)	Comments (note observations of permaganate, needed well repairs, ect.)
MW-01	6/11/18	1432	10.94	14.65	none	0.0	
MW-02	6/12/18	1348	4.75	8.18	—	—	can't close lid - cut down pipe
MW-13	6/12/18	1450	4.78	16.67	—	—	cut down pipe
MW-17	6/11	13:24	5.10	8.65	none	—	hard bottom
MW-18	6/11	14:11	10.21	55.66	none	0.0	—
MW-19	6/11	1415	11.00	18.19	none	0.0	—
MW-20	cannot get to well / not sampling per P.M. instructions						

Notes:  
 6/12/18  
 ft = feet  
 ft bgs = feet below ground surface  
 NA = Not Applicable

can't close lids to lock right



# Groundwater Level Measurement Form

Location	Date Measured	Time Measured	Measured Depth to Water (ft)	Measured depth to bottom (ft)	Measured depth to product (ft)	PID-Total VOCs (ppm)	Comments (note observations of permanganate, needed well repairs, ect.)
<b>Onsite Wells</b>							
BW-06 MW-06	9/13	1240	9.51	9.55	N/A	0.0	Dry
BW-34	9/13	1256	3.11	32.47	N/A	0.0	
BW-37	9/13	1250	9.73	34.70	N/A	0.0	
<b>Offsite Wells</b>							
BW-02							
BW-09	9/12	1617	3.49	30.24	N/A	0.0 ppm	Locking Cap needs repair
BW-14	9/12	1504	9.06	40.10	N/A	0.0 ppm	
BW-18	9/13	1017	3.97	41.73	N/A	0.00 ppm	
BW-26-65'	9/13	1040	10.42	N/A	N/A	0.0 ppm	
BW-26-85'	9/13	1145	10.65	N/A	N/A	0.0 ppm	
BW-26-395'	9/13	1147	10.68	N/A	N/A	0.0 ppm	
MW-20	9/13	1030	1.80	0.76	N/A	0.0 ppm	

Notes:

ft = feet

ft bgs = feet below ground surface

NA = Not Applicable



# Groundwater Sampling Field Data Sheets



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: MW01 Field Crew: Scamaron C. Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 75° Sunny light wind

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## WELL CONDITION

Date: 6/13/18 Time: 0915 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 14.65 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 10.90  
 Water Column (ft) = 3.75  
 Comments: see wk form for total depth

## PURGE METHOD

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)  
 Diameter Vol./ft.  
 1" 0.04  
 1.25" 0.06  
 2" 0.16  
 4" 0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (µS/cm)	Conductivity (µS/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
0925	Start	Purge		512	481	6.93	7.08	80.1	187.9	23.3	
0940	72	11.39	19.84	967	871	7.18	7.60	83.8	190.0	11.3	
0945	72	11.51	19.88	953	852	7.27	7.95	86.9	189.9	0.9	
0950	72	11.64	19.66	938	842	7.34	8.50	93.2	189.2	1.4	
0955	72	11.75	19.85	920	829	7.35	8.57	94.4	189.4	0.8	
1000	72	11.85	20.08	917	831	7.35	8.93	98.5	189.1	0.2	
1005	72	11.95	20.26	903	821	7.35	8.84	98.0	189.1	6.0	
1010	72	12.03	20.44	893	815	7.35	8.80	98.0	188.7	0.0	
1015	SAMPLE										

## SAMPLING

Date: 6/13/18 Time: 1015  
 Sample ID: AF01-101 Method of Sample Collection: low flow peristaltic  
 Analytical Parameters: VOCs, CL, TOL, MMA  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Dup. Time:  
 NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes Well locked? Yes  
 SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: mw-03 Field Crew: J. Sutton / S. Bigda Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: overcast 64°F

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Pickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/14/18 Time: 0840 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 7.35 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 4.95  
 Water Column (ft) = 2.40

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Comments:

See WL form for total depth

## OBSERVATIONS

Odor (circle one): None Low High Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
0854	225	6.32	17.12	0.971	0.820	6.70	2.50	26.0	275.6	34.6	very light purple tint
0858	84	6.52	17.36	0.919	0.785	6.73	2.31	24.1	279.0	25.6	same
0904	84	6.62	17.40	0.926	0.792	6.73	1.80	18.7	273.8	4.7	clear
0909	84	6.72	17.29	0.945	0.807	6.75	1.44	15.0	268.7	3.1	clear
0914	84	6.76	17.28	0.956	0.816	6.74	1.32	13.8	266.4	2.2	clear
0920	84	6.88	17.22	0.978	0.833	6.75	1.15	11.9	262.7	1.9	clear
0925	84	6.90	17.05	0.999	0.847	6.75	1.02	10.5	260.5	1.2	clear
0930 samples collected 6/14/18											

## SAMPLING

Date: 6/14/18 Time: 0930  
 Sample ID: AFDV102 Method of Sample Collection: low flow peristaltic

Analytical Parameters: VOC, TOC, Chloride

Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID:       

Dup. Time:       

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER: afvs



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: mw-04 Field Crew: J. Sutton

Site: 2040 West River Drive, Davenport, Iowa

Purpose of Sampling:

Annual LTMP Groundwater Sampling

Field Conditions: 65°F overcast

## WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / Stickup	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

## PURGE METHOD

Date: 6/14/18 Time: 0952 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 7.53 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 5.48  
 Water Column (ft) = 2.05

Volume Calculations:

(DTB - DTW) x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Comments:

Permanganate

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>1000 purge directly into bucket because of permanganate, wait for water to clear.</u>											
<u>1010</u>	<u>water clear</u>	<u>enough to run through</u>	<u>flow through cell and purge.</u>								
<u>1015</u>	<u>78</u>	<u>6.83</u>	<u>19.19</u>	<u>1.88.5</u>	<u>1.679</u>	<u>6.78</u>	<u>1.89</u>	<u>20.3</u>	<u>630.9</u>	<u>69.4</u>	<u>light pink</u>
<u>1023</u>	<u>70</u>	<u>7.04</u>	<u>22.58</u>	<u>1.993</u>	<u>1.775</u>	<u>6.76</u>	<u>1.46</u>	<u>15.8</u>	<u>650.8</u>	<u>35.4</u>	<u>light pink</u>
<u>1027</u>	<u>70</u>	<u>7.20</u>	<u>19.10</u>	<u>2.221</u>	<u>1.973</u>	<u>6.73</u>	<u>1.60</u>	<u>17.4</u>	<u>663.1</u>	<u>54.0</u>	<u>same</u>
<u>1031</u>	<u>60</u>	<u>7.26</u>	<u>19.08</u>	<u>2.261</u>	<u>2.013</u>	<u>6.73</u>	<u>1.77</u>	<u>19.3</u>	<u>666.5</u>	<u>67.2</u>	<u>same</u>
<u>1036</u>	<u>60</u>	<u>7.36</u>	<u>19.20</u>	<u>2.360</u>	<u>2.103</u>	<u>6.73</u>	<u>2.02</u>	<u>22.1</u>	<u>665.9</u>	<u>35.2</u>	<u>same</u>
<u>1040</u>	<u>60</u>	<u>7.40</u>	<u>19.39</u>	<u>2.377</u>	<u>2.122</u>	<u>6.73</u>	<u>2.15</u>	<u>23.6</u>	<u>668.2</u>	<u>32.8</u>	<u>same</u>
<u>1045</u>	<u>60</u>	<u>7.42</u>	<u>19.41</u>	<u>2.373</u>	<u>2.120</u>	<u>6.73</u>	<u>2.20</u>	<u>24.1</u>	<u>668.5</u>	<u>39.0</u>	<u>same</u>
<u>1050</u>	<u>sampled</u>	<u>6/14/18</u>									

## SAMPLING

Date: 6/14/18

Time: 1050

Sample ID: AFDV-103

Method of Sample Collection: low flow peristaltic

Analytical Parameters: Chloride, NOC, TOC AS only because of Permang

Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID:

Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER: J. Sutton



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: mw-05 Field Crew: J. Sutton

Purpose of Sampling: Annual LTMP Groundwater Sampling

Site: 2040 West River Drive, Davenport, Iowa

Field Conditions: Sunny breeze 74°F

## WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / Stickup	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

## PURGE METHOD

Date: 6/13/18 Time: 1050 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 860 Pump Type: Peristaltic

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Depth to Water (DTW) (ft) = 6.70

Water Column (ft) = 1.30

Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1055	70	*	purge brown water until water running light orange.								
1108	70	6.80	23.19	0.534	0.515	6.82	6.87	88.5	106.5	23.2	orange tint
1113	70	6.81	22.89	0.520	0.499	6.72	6.55	76.0	120.7	6.6	clear
1117	70	6.82	22.81	0.524	0.502	6.67	6.13	71.2	128.6	3.8	clear
1122	70	6.82	22.73	0.532	0.509	6.166	5.89	66.4	133.1	2.1	clear
1127	70	6.83	22.67	0.543	0.519	6.64	5.65	65.4	137.2	0.0	clear
1130 sampled on 6/13/18											

## SAMPLING

Date: 6/13/18

Time: 1130

Sample ID: AFDV-104

Method of Sample Collection: low flow peristaltic

Analytical Parameters: VOC, TOC, chloride

Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID:       

Dup. Time:       

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER: J. Sutton



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: mw-06 Field Crew: J. Sutton

Site: 2040 West River Drive, Davenport, Iowa

Field Conditions: Sunny light breeze 77°F

Purpose of Sampling: Annual LTMP Groundwater Sampling

## WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / <u>Suckup</u>	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

## PURGE METHOD

Date: 6/13/18 Time: 1330  
 Total Well Depth (DTB) (ft) = 8.54  
 Depth to Water (DTW) (ft) = 7.94  
 Water Column (ft) = 0.60  
 Comments:

Method: Low-flow  
 Pump Type: Peristaltic

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High H<sub>2</sub>S Fuel Like  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1350	126	8.3	23.14	0.592	0.572	6.44	5.06	59.2	130.0	12.0	none
1352	56	8.35	23.34	0.600	0.582	6.43	5.05	59.7	137.1	9.2	none
1357	54	8.39	24.95	0.617	0.618	6.44	4.14	50.0	144.9	2.0	none
1402	wait for well to recharge to avoid dry well - about 5 min recharge										
1408	50	8.30	27.39	0.629	0.658	6.44	5.08	64.5	155.1	2.3	none
1412	50	8.30	27.39	0.629	0.658	6.44	5.08	64.5	155.1	2.3	none
1417	50	8.30	27.39	0.629	0.658	6.44	5.08	64.5	155.1	2.3	none
1436	50	8.30	27.39	0.629	0.658	6.44	5.08	64.5	155.1	2.3	none
1438	50	8.30	27.39	0.629	0.658	6.44	5.08	64.5	155.1	2.3	none
sampled because purged 2 flow through cells worth of well water on 6/13/18 VOCs only											

## SAMPLING

Date: 6/13/18

Time: 1438

Sample ID: AFDV-105

Method of Sample Collection: low flow peristaltic

Analytical Parameters: Fe, VOC, chloride JS only enough for VOC only

Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID:       

Dup. Time:       

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER: JWSH



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: MW-07 Field Crew: J. Sutton

Purpose of Sampling: Annual LTMP Groundwater Sampling

Site: 2040 West River Drive, Davenport, Iowa

Field Conditions: Sunny - some clouds 76°C

## WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain: cant close
Locking Cap	Acceptable	Not Acceptable	Explain:

## PURGE METHOD

Date: 6/12/18 Time: 1348

Method: Low-flow

Volume Calculations:

Total Well Depth (DTB) (ft) = 8.18

Pump Type: Peristaltic

(DTB - DTW x Vol./ft. = Gals./well volume)

Depth to Water (DTW) (ft) = 4.75

Diameter Vol./ft.

Water Column (ft) = 3.43

1" 0.04

Comments:

1.25" 0.06

2" 0.16

4" 0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:

Turbidity (circle one): None Low Medium High Heavy Silts

Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1404	60	5.13	21.35	1.097	1.018	6.67	1.18	13.1	72	2.3	none
1409	60	5.19	20.83	1.085	0.998	6.64	0.70	7.8	94.9	2.5	none
1413	60	5.22	20.76	1.082	0.994	6.63	0.55	6.1	83.1	2.0	none
1418	60	5.20	20.55	1.076	0.985	6.63	0.44	4.9	89.7	2.6	none
1422	60	5.20	20.88	1.072	0.988	6.62	0.37	4.1	102.5	1.4	none
1426	60	5.20	20.89	1.068	0.984	6.62	0.34	3.8	103.2	1.4	none
1431	60	5.20	20.92	1.063	0.980	6.61	0.31	3.5	102.6	1.1	none
sampled @ 1434 on 6/12/18											

## SAMPLING

Date: 6/12/18

Time: 1434

Sample ID: AFDV-106

Method of Sample Collection: low flow peristaltic

Analytical Parameters: VOC, TOC, Chloride, Dis Gases, MNA

Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID:

Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER:



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: MW-08 Field Crew: J. Sutton

Purpose of Sampling:

Annual LTMP Groundwater Sampling

Site: 2040 West River Drive, Davenport, Iowa

Field Conditions: Sunny, 79°F

## WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

## PURGE METHOD

Date: 6/13/18 Time: 1530 Method: Low-flow  
Total Well Depth (DTB) (ft) = 8.21 Pump Type: Peristaltic  
Depth to Water (DTW) (ft) = 4.35  
Water Column (ft) = 3.86

Volume Calculations:

(DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Comments:

See well form for total well depth

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:

Turbidity (circle one): None Low Medium High Heavy Silts

Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1540	100	6.14	23.37	1.123	1.088	7.10	1.37	14.7	118.5	7.3	none
1545	80	6.49	23.26	1.090	1.054	7.10	0.95	11.2	122.9	6.5	none
1550	50	6.53	24.07	1.078	1.060	7.16	0.89	10.6	127.0	5.6	none
1555	50	6.66	24.18	1.081	1.064	7.16	0.95	11.4	128.7	5.7	none
1600	50	6.76	24.38	1.087	1.074	7.17	0.97	11.7	131.2	4.0	none
1605	50	6.81	24.17	1.111	1.093	7.17	0.93	11.2	134.0	2.8	none
1609	sampled on 6/13/18										r

## SAMPLING

Date: 6/13/18

Time: 1609

Sample ID: AFDV-107

Method of Sample Collection: low flow peristaltic Grab

Analytical Parameters: VOC, TOC, Chloride

Q.C. Sample Type: NA MS/MSD — Duplicate Sample ID: —

Dup. Time: —

NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

Well locked? Yes

SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: MW-13 Field Crew: J. Sutton / S. Bigda Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 88°F Sunny some clouds

## WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain: cant close lid
Locking Cap	Acceptable	Not Acceptable	Explain:

## PURGE METHOD

Date: 6/12/18 Time: 1450 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 16.67 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 4.78  
 Water Column (ft) = 11.89  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1505	100	4.83	22.03	1.209	1.138	7.26	0.51	5.8	-154.0	13.1	black specs on top
1510	100	4.84	21.74	1.205	1.129	7.24	0.31	3.6	-148.0	7.1	none
1515	100	4.85	21.40	1.203	1.120	7.23	0.20	2.2	-143.3	9.4	none
1519	100	4.86	21.76	1.202	1.128	7.23	0.15	1.8	-144.2	8.1	none
1524	100	4.86	21.56	1.206	1.128	7.23	0.12	1.4	-144.9	6.1	none
sampled @ 1546 on 6/12/18											

## SAMPLING

Date: 6/12/18 Time: 1546  
 Sample ID: AFDY-108 Method of Sample Collection: peristaltic low flow

Analytical Parameters: VOC, TOC, Chloride, Mn, Pb, Dis. Gases

Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: \_\_\_\_\_

Dup. Time: \_\_\_\_\_

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER:

*[Signature]*



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-01 Field Crew: C. Reuss  
 Site: 2040 West River Drive, Davenport, Iowa Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Field Conditions: 80°F Sunny S.W. ~20 mph

WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / <u>Stickup</u>	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

PURGE METHOD

Date: 6/13 Time: 9:15 Method: Low-flow  
 Total Well Depth (DTB) (ft) = See well log Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 11.53  
 Water Column (ft) = 22.57  
 Comments: \_\_\_\_\_

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments: \_\_\_\_\_

3.1. 0.1 0.3 10ml 10%.

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
9:20	Start	12.31	19.67	841	735	6.80	2.05	22.2	190.8	16.7	
9:29	96	12.56	19.42	832	748	6.79	1.66	18.1	196.7	12.7	
9:39	96	12.74	19.56	838	747	6.73	1.51	17.8	200.8	16.3	
9:49	96	12.85	19.30	837	746	6.72	1.42	18.3	202.9	18.3	
9:59	96	12.93	19.55	836	750	6.78	1.38	16.5	204.5	16.5	
10:09	96	12.99	19.59	837	750	6.79	1.37	15.0	205.7	16.7	
Sample Well											

SAMPLING

Date: 6/13/18 Time: 1:00S  
 Sample ID: AFD1-109 Method of Sample Collection: low flow peristaltic  
 Analytical Parameters: VOCs, TOC, CL, MNA  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: \_\_\_\_\_ Dup. Time: \_\_\_\_\_  
 NOTE: Designate if a Field Blank is taken.

Trash picked up? Y Well locked? Y  
 SIGNED/SAMPLER: [Signature]



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-02 Field Crew: Steven Boyd Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny, high 20s

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount/Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/12/18 Time: 1351 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 23.95 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 4.21  
 Water Column (ft) = 19.74  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1355	140	4.55	15.89	1.241	1.028	6.64	1.71	17.0	62	21.9	Slightly cloudy, no odor
1400	140	5.28	16.99	1.225	1.038	6.55	0.73	7.6	59.6	12.8	Clear, no odor
1405	140	5.53	16.45	1.222	1.022	6.52	0.58	6.0	60.8	3.9	" "
1410	140	5.60	16.81	1.218	1.028	6.50	0.53	5.5	61.8	2.7	" "
1415	140	5.72	14.88	1.214	1.030	6.56	0.55	5.5	61.8	2.4	" "

SB 6/12/18

## SAMPLING

Date: 6/12/18 Time: 1420  
 Sample ID: AFDU-110 Method of Sample Collection: Peristaltic Pump  
 Analytical Parameters: All parameters  
 Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up? ☒

Well locked? Yes

SIGNED/SAMPLER: Steven Boyd



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-03R Field Crew: Steven Bogen Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny, mid 70s

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## WELL CONDITION

Date: 6/13/19 Time: 1053 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 27.98 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 6.32  
 Water Column (ft) = 21.66  
 Comments:

## PURGE METHOD

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)  
 Diameter Vol./ft.  
 1" 0.04  
 1.25" 0.06  
 2" 0.16  
 4" 0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>1056</u>	<u>160</u>	<u>6.39</u>	<u>16.89</u>	<u>1.167</u>	<u>0.986</u>	<u>6.88</u>	<u>0.72</u>	<u>7.5</u>	<u>200.7</u>	<u>122.4</u>	<u>light brown color, no odor.</u>
<u>1101</u>	<u>160</u>	<u>6.41</u>	<u>17.56</u>	<u>1.171</u>	<u>1.006</u>	<u>6.86</u>	<u>0.52</u>	<u>5.4</u>	<u>177.7</u>	<u>121.3</u>	<u>" "</u>
<u>1106</u>	<u>160</u>	<u>6.38</u>	<u>17.55</u>	<u>1.180</u>	<u>1.013</u>	<u>6.84</u>	<u>0.39</u>	<u>4.0</u>	<u>195.1</u>	<u>28.1</u>	<u>" "</u>
<u>1111</u>	<u>160</u>	<u>6.41</u>	<u>17.38</u>	<u>1.219</u>	<u>1.044</u>	<u>6.85</u>	<u>0.27</u>	<u>2.8</u>	<u>187.3</u>	<u>27.3</u>	<u>" "</u>
<u>1116</u>	<u>160</u>	<u>6.40</u>	<u>17.52</u>	<u>1.241</u>	<u>1.072</u>	<u>6.85</u>	<u>0.23</u>	<u>2.4</u>	<u>181.7</u>	<u>26.6</u>	<u>" "</u>

SB 6/13/19

## SAMPLING

Date: 6/13/19 Time: 1120  
 Sample ID: AFDV-111 Method of Sample Collection: peristaltic pump  
 Analytical Parameters: TOC, VOC, chloride  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Dup. Time:  
 NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER: Steven Bogen



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-04 Field Crew: S. Bigger Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 20°F, Cloudy

WELL CONDITION			
Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / Stickup	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

PURGE METHOD			
Date: <u>6/14/18</u>	Time: <u>0955</u>	Method: <u>Low-flow</u>	Volume Calculations:
Total Well Depth (DTB) (ft) = <u>5.22</u>	Pump Type: <u>Peristaltic</u>		(DTB - DTW x Vol./ft. = Gals./well volume)
Depth to Water (DTW) (ft) = <u>5.22</u>			
Water Column (ft) = <u>28.55</u>			
Comments: <u>See WL Form For total depth</u>			
		Diameter	Vol./ft.
		1"	0.04
		1.25"	0.06
		<u>2"</u>	0.16
		4"	0.65

OBSERVATIONS			
Odor (circle one): <u>None</u>	Low	High <u>HS</u>	Fuel Like
Turbidity (circle one): <u>None</u>	Low	<u>Medium to High</u>	Heavy Silts
Comments:	Other: <u>Purple immediately, will pump and try to clear up</u> <u>Pumped 2 gallons, did not clear up.</u>		

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>0955</u>	<u>Started low flow, purple (permanganate) immediately shows up. will try to pump and see if it clears up.</u>										
<u>1005</u>	<u>Pumped out 2 gallons, stayed same or even darker, will not take to 0.</u>										
<u>1007</u>	<u>220</u>	<u>7.23</u>	<u>15.00</u>	<u>13.41</u>	<u>10.87</u>	<u>9.85</u>	<u>-</u>	<u>-</u>	<u>615.8</u>	<u>583.8</u>	<u>Purple, no clear</u>
<u>1012</u>	<u>220</u>	<u>7.23</u>	<u>15.00</u>	<u>13.37</u>	<u>10.87</u>	<u>9.86</u>	<u>-</u>	<u>-</u>	<u>619.4</u>	<u>450.4</u>	<u>" "</u>
<u>1017</u>	<u>220</u>	<u>7.23</u>	<u>14.82</u>	<u>13.30</u>	<u>10.71</u>	<u>9.90</u>	<u>-</u>	<u>-</u>	<u>622.7</u>	<u>903.6</u>	<u>" "</u>
<u>1022</u>	<u>220</u>	<u>7.25</u>	<u>14.74</u>	<u>12.73</u>	<u>10.22</u>	<u>9.94</u>	<u>-</u>	<u>-</u>	<u>623.7</u>	<u>776.7</u>	<u>" "</u>
<u>1027</u>	<u>220</u>	<u>7.30</u>	<u>14.82</u>	<u>12.45</u>	<u>10.03</u>	<u>9.89</u>	<u>-</u>	<u>-</u>	<u>630.4</u>	<u>448.1</u>	<u>" "</u>
<u>1032</u>	<u>220</u>	<u>7.30</u>	<u>14.71</u>	<u>12.39</u>	<u>9.956</u>	<u>9.88</u>	<u>-</u>	<u>-</u>	<u>638.8</u>	<u>167.1</u>	<u>" "</u>
<u>1037</u>	<u>220</u>	<u>7.37</u>	<u>14.68</u>	<u>12.45</u>	<u>9.998</u>	<u>9.60</u>	<u>-</u>	<u>-</u>	<u>642.8</u>	<u>173.4</u>	<u>" "</u>
<u>042</u>	<u>220</u>	<u>7.42</u>	<u>14.74</u>	<u>12.56</u>	<u>10.10</u>	<u>9.55</u>	<u>-</u>	<u>-</u>	<u>647.4</u>	<u>169.8</u>	<u>" "</u>

SB 6/14/18

SAMPLING			
Date: <u>6/14/18</u>	Time: <u>1050</u>		
Sample ID: <u>AFDV-112</u>	Method of Sample Collection: <u>peristaltic</u>		
Analytical Parameters: <u>chloride</u>			
Q.C. Sample Type: <u>NA</u>	MS/MSD	Duplicate	Duplicate Sample ID:
NOTE: Designate if a Field Blank is taken.			Dup. Time:
Trash picked up? <u>Yes</u>			Well locked? <u>Yes</u>
SIGNED/SAMPLER: <u>[Signature]</u>			



41-05

# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: 41-05 Field Crew: C. R. J. J. Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 85°F Sunny

WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

PURGE METHOD

Date: 6/13/18 Time: 1440 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) =            Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 5.35  
 Water Column (ft) = 13.11 See field form  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments: Purging as slow as pump will go

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1435	- Start	1.7 mgm		25/cm	25/cm						
1454	72	7.85	17.96	346	2723	6.48	0.84	9.0	139.3	150.3	Clear → orange colored
1459	72	8.42	18.63	3118	2739	6.47	0.61	6.6	144.2	135.5	orange tint
1501	72	8.77	19.08	3112	2760	6.51	0.56	6.1	147.5	113.4	orange tint
1509	72	9.25	18.89	3091	2730	6.51	0.50	5.1	148.1	92.0	orange tint
1514	72	9.52	19.05	3052	2708	6.51	0.46	5.1	147.7	88.1	orange tint
1519	72	9.83	19.14	3038	2696	6.50	0.47	5.1	148.5	78.4	orange tint → clear
1524	72	10.08	19.23	2984	2655	6.51	0.43	4.7	150.4	71.6	orange tint
1529	72	10.42	19.26	2932	2643	6.52	0.42	4.6	154.5	69.9	orange tint
1531	72	10.63	19.14	2947	2617	6.51	0.40	4.4	157.8	70.9	orange tint
Sample		Well									

SAMPLING

Date: 6/13/18 Time: 1545  
 Sample ID: AFOV-113 Method of Sample Collection: low flow  
 Analytical Parameters: VOCs, CL, TOC  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Dup. Time:  
 NOTE: Designate if a Field Blank is taken.  
 Trash picked up? Y Well locked? Y  
 SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-06 Field Crew: S B. gda

Site: 2040 West River Drive, Davenport, Iowa

Field Conditions:

Purpose of Sampling:

Annual LTMP Groundwater Sampling

## WELL CONDITION

Well Pad: Acceptable  
 Flushmouth / Stickup: Acceptable  
 Well Casing: Acceptable  
 Locking Cap: Acceptable

Not Acceptable  
 Not Acceptable  
 Not Acceptable  
 Not Acceptable

Explain:  
 Explain:  
 Explain:  
 Explain:

## PURGE METHOD

Date: 6/13/18 Time: 1423 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 225  
 Depth to Water (DTW) (ft) = 2.25  
 Water Column (ft) = 2032

Volume Calculations:

(DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Comments:

See wL Form for to full depth

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:

Turbidity (circle one): None Low Medium High Heavy Silts

Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1425	240	2.41	17.47	1.406	1.199	6.77	0.68	6.9	-65.2	9.5	Clear, fuel odor
1430	240	2.88	17.19	1.419	1.267	6.74	0.25	2.6	-76.7	2.2	" "
1435	240	3.06	16.85	1.408	1.189	6.75	0.17	1.7	-84.1	0.7	" "
1440	240	3.31	16.85	1.388	1.169	6.79	0.15	1.5	-90.6	0.2	" "
1445	240	3.52	16.66	1.376	1.150	6.80	0.13	1.2	-95.4	0.5	" "

SB 6/13/18

## SAMPLING

Date: 6/13/18

Sample ID: AFDV-114

Analytical Parameters: VOCs, TOC, Chloride

Q.C. Sample Type: MS/MSD Duplicate

Time: 1450

Method of Sample Collection: Peristaltic Pump Grab

Duplicate Sample ID: AFDV-115

Dup. Time: 1455

NOTE: Designate if a Field Blank is taken.

Trash picked up?

Yes

Well locked?

Yes

SIGNED/SAMPLER:

[Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: SW-04 Field Crew: Steve Bign Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 78°F, Sunny

WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain: <u>Top is broken</u>
Well Casing	Acceptable	Not Acceptable	Explain: <u>Top is broken</u>
Locking Cap	Acceptable	Not Acceptable	Explain:

PURGE METHOD

Date: 6/12/18 Time: 1500 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 5.91 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 30.25  
 Water Column (ft) = 26.34  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1505	190	5.35	16.43	1.323	1.11	6.68	1.08	11.2	-89.7	1.6	(clear, no odor)
1510	190	5.70	17.78	1.321	1.140	6.67	0.61	6.4	-87.2	1.4	"
1515	190	6.06	17.07	1.323	1.143	6.66	0.47	4.9	-87.0	1.6	"
1520	190	6.28	17.37	1.323	1.130	6.66	0.45	4.5	-85.6	1.2	"
1525	190	6.43	17.36	1.322	1.124	6.66	0.39	3.9	-83.1	1.6	"

SB

6/12/18

## SAMPLING

Date: 6/12/18 Time: 1530  
 Sample ID: AFDV-116 Method of Sample Collection: Peristaltic Pump  
 Analytical Parameters: All parameters  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Dup. Time:

NOTE: Designate if a Field Blank is taken.  
 Trash picked up? yes Well locked? yes

SIGNED/SAMPLER: [Signature] Steve Bign



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-11 Field Crew: J. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 80°F Sunny 7-15 mph S winds

WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount/ Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

PURGE METHOD

Date: 6/13 Time: 1040 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 26.75 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 5.24  
 Water Column (ft) = 21.51  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments: Turbid on start, cleared after 15 min purging

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1045	start purge										
1050	136	5.49	15.48	1256	1120	7.08	1.86	19.9	53.8	41.9	
1055	136	5.44	18.23	1217	1056	6.99	1.70	17.2	57.5	46.1	
1100	136	5.44	18.42	1210	1058	7.01	1.77	19.0	65.0	30.2	
1105	136	5.44	18.12	1211	1052	7.03	1.06	11.5	63.0	20.6	
1110	136	5.41	17.97	1204	1045	7.05	1.47	15.6	70.6	14.6	
1115	136	5.44	17.91	1209	1045	7.02	0.80	8.5	76.1	11.7	
1120	136	5.44	18.12	1208	1049	7.04	0.54	5.6	79.3	10.4	
1125	136	5.41	18.69	1207	1047	7.04	0.56	5.8	81.5	10.0	
1130	136	5.41	18.69	1181	1028	7.04	0.47	5.0	70.6	7.00	
Sample	Well										

DATE: 6/13/18 Time: 1140 SAMPLING  
 Sample ID: AFOU-117 Method of Sample Collection: low flow  
 Analytical Parameters: VOCS, CL, TOC, MNA  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Dup. Time:  
 NOTE: Designate if a Field Blank is taken.  
 Trash picked up? Y Well locked? Y  
 SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-13 Field Crew: J. Sutton / S. Bigda Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 73°F overcast drizzle

WELL CONDITION  
 Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Pickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

PURGE METHOD  
 Date: 6/12/18 Time: 1053 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 35.06 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 11.18  
 Water Column (ft) = 23.88  
 Comments: wasp nest in well

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)  
 Diameter Vol./ft.  
 1" 0.04  
 1.25" 0.06  
 2" 0.16  
 4" 0.65

OBSERVATIONS  
 Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1102	192	11.38	15.6	1.427	1.171	6.87	0.66	6.8	-84.0	15.3	none
1107	140	11.29	16.43	1.438	1.204	6.83	0.39	4.0	-87.0	6.8	none
1112	140	11.31	16.67	1.465	1.233	6.83	0.29	3.0	-86.7	4.1	none
1117	140	11.31	16.57	1.479	1.248	6.83	0.22	2.3	-87.3	2.5	none
1122	140	11.32	16.81	1.483	1.251	6.83	0.20	2.1	-88.6	2.4	none
1127	140		16.41	1.478	1.235	6.83	0.13	1.3	-90.7	2.0	none
sampled @ 1130 on 6/12/18											

*[Handwritten signature]*

SAMPLING  
 Date: 6/12/18 Time: 1130  
 Sample ID: AFDY-118 Method of Sample Collection: low-flow peristaltic

Analytical Parameters: VOC, TOC, Chloride, MNA + Dis. Gases  
 Q.C. Sample Type: MS/MSD Duplicate — Duplicate Sample ID: —

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

SIGNED/SAMPLER: *[Signature]*

Well locked? yes



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-14 Field Crew: Steven B. Buda Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 73°F, cloudy, light rain

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/12/18 Time: 11:02 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 40.0 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 12.35  
 Water Column (ft) = 27.73  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>1105</u>	<u>190</u>	<u>13.52</u>	<u>15.77</u>	<u>2.391</u>	<u>1.969</u>	<u>6.23</u>	<u>1.84</u>	<u>18.2</u>	<u>-119.0</u>	<u>5.4</u>	<u>Fuel smell, clear</u>
<u>1111</u>	<u>190</u>	<u>14.18</u>	<u>16.31</u>	<u>2.389</u>	<u>1.993</u>	<u>6.21</u>	<u>0.58</u>	<u>5.9</u>	<u>-149.6</u>	<u>5.6</u>	<u>" "</u>
<u>1115</u>	<u>190</u>	<u>14.77</u>	<u>16.58</u>	<u>2.385</u>	<u>2.002</u>	<u>6.21</u>	<u>0.46</u>	<u>4.6</u>	<u>-157.1</u>	<u>4.9</u>	<u>" "</u>
<u>1120</u>	<u>190</u>	<u>14.73</u>	<u>17.29</u>	<u>2.386</u>	<u>2.033</u>	<u>6.22</u>	<u>0.38</u>	<u>4.0</u>	<u>-152.7</u>	<u>4.2</u>	<u>" "</u>
<u>1125</u>	<u>190</u>	<u>14.71</u>	<u>17.48</u>	<u>2.383</u>	<u>2.041</u>	<u>6.22</u>	<u>0.37</u>	<u>3.9</u>	<u>-149.3</u>	<u>3.9</u>	<u>" "</u>

SB  
6/12/18

## SAMPLING

Date: 6/12/18 Time: 1135  
 Sample ID: AFDV-119 Method of Sample Collection: peristaltic pump  
 Analytical Parameters: DOCs, TOC, MNA, Dissolved  
 Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: AFDV-120 Dup. Time: 1140  
 NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes Well locked? Yes

SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: B.W.-15 Field Crew: S. Bigda

Purpose of Sampling:

Annual LTMP Groundwater Sampling

Site: 2040 West River Drive, Davenport, Iowa

Field Conditions: Sunny, mid 70's

## WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

## PURGE METHOD

Date: 6/13/18 Time: 0929 Method: Low-flow  
Total Well Depth (DTB) (ft) = 11.97 Pump Type: Peristaltic

Volume Calculations:

(DTB - DTW x Vol./ft. = Gals./well volume)

Depth to Water (DTW) (ft) = 11.47

Water Column (ft) = 19.72

Comments:

See WL form for total depth

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like  
Turbidity (circle one): None Low Medium High Heavy Silts  
Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
0934	160	12.89	16.16	1.279	1.064	6.81	1.18	12.0	13.6	6.8	Clear, no odor
0939	160	12.96	16.35	1.281	1.069	6.81	0.63	6.4	10.1	5.2	" "
0944	160	12.97	16.45	1.279	1.070	6.81	0.39	4.0	10.4	3.6	" "
0949	160	12.98	16.72	1.277	1.075	6.81	0.37	3.8	10.3	2.6	" "
0954	160	12.97	16.87	1.275	1.076	6.81	0.30	3.0	9.1	1.4	" "

SP 6/13/18

## SAMPLING

Date: 6/13/18

Time: 1005

Sample ID: AFDV-121

Method of Sample Collection: Peristaltic Pump

Analytical Parameters: TOC, chloride, VOC, MNA, Dis Gases

Q.C. Sample Type: MS/MSD Duplicate

Duplicate Sample ID:

Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

Well locked? Yes

SIGNED/SAMPLER:

*[Signature]*



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: 3W-16 Field Crew: Stevin Dyck Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: cloudy, 70°F

WELL CONDITION			
Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount (Stickup)	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

PURGE METHOD			
Date: <u>6/14/18</u>	Time: <u>0846</u>	Method: <u>Low-flow</u>	Volume Calculations:
Total Well Depth (DTB) (ft) = <u>5.61</u>	Pump Type: <u>Peristaltic</u>		(DTB - DTW x Vol./ft. = Gals./well volume)
Depth to Water (DTW) (ft) = <u>5.61</u>			
Water Column (ft) = <u>27.64</u>			
Comments: <u>See wt form for total depth permanganate</u>			
		Diameter	Vol./ft.
		1"	0.04
		1.25"	0.06
		<u>2"</u>	0.16
		4"	0.65

OBSERVATIONS			
Odor (circle one): <u>None</u>	Low	High	HS
Turbidity (circle one): <u>None</u>	Low	<u>Medium to High</u>	Fuel Like
Comments: <u>Purple from permanganate</u>			Other: <u>Had permanganate from the beginning of pumping. Pumped out 4 gallons before taking readings. Not to record DO to save sensor from being destroyed.</u>

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>0846</u>	<u>Started pumping</u>										<u>dark purple (permanganate) observed</u>
<u>0905</u>	<u>Pumped out 4 gallons</u>										<u>did not clear up, will only sample for chloride</u>
<u>0910</u>	<u>240</u>	<u>7.33</u>	<u>13.81</u>	<u>19.25</u>	<u>15.12</u>	<u>7.18</u>	<u>—</u>	<u>—</u>	<u>690.6</u>	<u>32.7</u>	<u>- Purple, no odor</u>
<u>0915</u>	<u>240</u>	<u>7.34</u>	<u>13.72</u>	<u>19.33</u>	<u>15.16</u>	<u>7.55</u>	<u>—</u>	<u>—</u>	<u>692.2</u>	<u>27.3</u>	<u>- Purple, no odor</u>
<u>0920</u>	<u>240</u>	<u>7.35</u>	<u>13.71</u>	<u>18.55</u>	<u>14.50</u>	<u>7.34</u>	<u>—</u>	<u>—</u>	<u>704.3</u>	<u>45.7</u>	<u>" "</u>
<u>0925</u>	<u>240</u>	<u>7.37</u>	<u>13.66</u>	<u>18.26</u>	<u>14.30</u>	<u>7.29</u>	<u>—</u>	<u>—</u>	<u>709.3</u>	<u>53.1</u>	<u>" "</u>
<u>0930</u>	<u>240</u>	<u>7.39</u>	<u>13.58</u>	<u>18.09</u>	<u>14.12</u>	<u>7.27</u>	<u>—</u>	<u>—</u>	<u>711.9</u>	<u>56.4</u>	<u>" "</u>
<u>0935</u>	<u>240</u>	<u>7.41</u>	<u>13.57</u>	<u>18.01</u>	<u>14.10</u>	<u>7.26</u>	<u>—</u>	<u>—</u>	<u>712.1</u>	<u>58.8</u>	<u>" "</u>

SP 6/14/18

SAMPLING			
Date: <u>6/14/18</u>	Time: <u>0940</u>	Method of Sample Collection: <u>peristaltic pump</u>	
Sample ID: <u>AFDV-122</u>			
Analytical Parameters: <u>Chloride</u>			
Q.C. Sample Type: <u>NA</u>	MS/MSD	Duplicate	Duplicate Sample ID:
NOTE: Designate if a Field Blank is taken.			Dup. Time:
Trash picked up? <u>Yes</u>			Well locked? <u>Yes</u>
SIGNED/SAMPLER: <u>Sg...</u>			



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-19 Field Crew: J. Sutton / S. Bigda Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: overcast, humid, 75°F

WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / Suckup	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

PURGE METHOD

Date: 6/12/18 Time: 0930 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 40.20 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 6.85  
 Water Column (ft) = 33.35  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
0940	180	8.13	15.47	0.776	0.641	7.13	0.63	6.5	-60.3	4.1	orange at first
0950	114	8.18	16.05	0.774	0.642	7.14	0.38	3.8	-66.7	3.8	clear
0955	120	8.22	16.06	0.774	0.641	7.14	0.32	3.3	-67.4	3.5	clear
1000	120	8.24	15.93	0.773	0.639	7.14	0.31	3.1	-71.3	3.8	clear
1005	120	8.26	15.87	0.773	0.637	7.14	0.27	2.8	-73.1	3.0	clear
sampled @ 1010 on 6/12/18 0.772 J											

*Handwritten signature/initials*

SAMPLING

Date: 6/12/18 Time: 1010  
 Sample ID: AFDV-124 Method of Sample Collection: low flow peristaltic  
 Analytical Parameters: VOC, Chloride, TOC, MNA + Dis. Gases  
 Q.C. Sample Type: MS/MSD Duplicate Sample ID:        Dup. Time:         
 NOTE: Designate if a Field Blank is taken.  
 Trash picked up? yes  
 SIGNED/SAMPLER: dpw/SH Well locked? yes

*Handwritten mark*



## FIELD DATA SHEET - GROUNDWATER SAMPLING

6/12/18

Well Number: BW-21 Field Crew: Steven Bingham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Cloudy mid 70s

## WELL CONDITION

Well-Pad Acceptable Not Acceptable Explain: Not applicable  
 Flushmount Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/12/18 Time: 0929 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 153.97 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 7.18  
 Water Column (ft) = 146.79  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate <sup>10.63</sup> (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond <sup>3%</sup> (ms/cmC)	Conductivity (ms/cm)	pH <sup>0.1</sup> (SU)	DO <sup>0.3</sup> (mg/L)	DO (%)	ORP <sup>10</sup> (mV)	Turbidity <sup>10.6</sup> (NTU)	Comments
0930	<u>160</u>	<u>7.20</u>	<u>14.84</u>	<u>0.575</u>	<u>0.445</u>	<u>6.17</u>	<u>4.83</u>	<u>42.6</u>	<u>6.6</u>	<u>1.6</u>	<u>Clear, no odor</u>
0936	<u>160</u>	<u>7.20</u>	<u>15.31</u>	<u>0.541</u>	<u>0.441</u>	<u>6.46</u>	<u>3.59</u>	<u>36.0</u>	<u>190.2</u>	<u>1.2</u>	<u>" "</u>
0942	<u>160</u>	<u>7.20</u>	<u>15.56</u>	<u>0.524</u>	<u>0.429</u>	<u>6.65</u>	<u>3.03</u>	<u>30.5</u>	<u>188.2</u>	<u>1.1</u>	<u>" "</u>
0948	<u>160</u>	<u>7.20</u>	<u>15.39</u>	<u>0.516</u>	<u>0.421</u>	<u>6.68</u>	<u>3.05</u>	<u>30.6</u>	<u>189.5</u>	<u>1.0</u>	<u>" "</u>
0953	<u>160</u>	<u>7.20</u>	<u>15.39</u>	<u>0.509</u>	<u>0.414</u>	<u>6.70</u>	<u>2.97</u>	<u>29.7</u>	<u>190.8</u>	<u>1.0</u>	<u>" "</u>

88

6/12/18

## SAMPLING

Date: 6/12/18 Time: 0955  
 Sample ID: AFDV-125 Method of Sample Collection: Low Flow  
 Analytical Parameters: UCL, TOC, MNA, Dissolved As, B  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up? YesWell locked? YesSIGNED/SAMPLER: Steven Bingham



BW-23-50'

# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: Field Crew: C. Rous / S. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 78°F humid overcast

WELL CONDITION  
 Well Pad: Acceptable Not Acceptable Explain:  
 Flushmount / Stickup: Acceptable Not Acceptable Explain:  
 Well Casing: Acceptable Not Acceptable Explain:  
 Locking Cap: Acceptable Not Acceptable Explain:

PURGE METHOD  
 Date: NA Time: NA Method: Low flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = NA Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = NA  
 Water Column (ft) = NA  
 Comments: Flute well  

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

OBSERVATIONS  
 Odor (circle one): None Low High HS Fuel Like  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
/ Not Applicable Flute Well											



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: Field Crew: J. Graham C. Davis Purpose of Sampling: Annual LTMP Groundwater Sampling  
Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 78°F humid overcast

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount (Stickup)	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

**WELL CONDITION**

Date: NA Time: NA Method: low-flow  
Total Well Depth (DTB) (ft) = NA Pump Type: Peristaltic  
Depth to Water (DTW) (ft) = NA  
Water Column (ft) = NA  
Comments: Flute well

## PURGE METHOD

**Volume Calculations:**  
(DTB - DTW x Vol./ft. = Gals./well volume)

<u>Diameter</u>	<u>Vol./ft.</u>
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Odor (circle one):	None	Low	High	HS	Fuel Like	Other:
Turbidity (circle one):	None	Low	Medium	High	Heavy Silts	
Comments:						

### OBSERVATIONS

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (l)	Temp. (C)	Sp. Cond (ms/cmC)	FIELD PARAMETERS						Comments
					Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	

/ Not Applicable Flute Well

## SAMPLING

Date: 6/12/2018  
Sample ID: AFDN-027  
Analytical Parameters: VOCs, TOC, CL  
Q.C. Sample Type: MA MS/MSD Duplicate  
Time: 1010  
Method of Sample Collection: Flush well  
Duplicate Sample ID:

**NOTE:** Designate if a Field Blank is taken.

**Trash picked up?**

**SIGNED/SAMPLER:**

## Well locked?

Proced  
sampled 2x on 3rd purge



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: \_\_\_\_\_ Field Crew: T. Graham / C. Davis Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 78°F Overcast

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

**WELL CONDITION**

Date: NA Time: NA Method: Low flow  
Total Well Depth (DTB) (ft) = NA Pump Type: Peristaltic

Depth to Water (DTW) (ft) = NA

Water Column (ft) = 142

**Comments:**

Flute well

## PURGE METHOD

**Volume Calculations:**

$$(\text{DTB} - \text{DTW} \times \text{Vol./ft.} = \text{Gals./well volume})$$

Diameter	Vol./ft.
----------	----------

1"	0.04
----	------

1.25"	0.06
-------	------

2" 0.16

4"	0.65
----	------

## OBSERVATIONS

Odor (circle one):	None	Low	High	HS	Fuel Like	Other:
Turbidity (circle one):	None	Low	Medium	High	Heavy Silts	
Comments:						

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	FIELD PARAMETERS					Turbidity (NTU)	Comments
					Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)		

~~Not~~ Applicable

Date: 6/12/2018

Sample ID: AFDV-128

Analytical Parameters: VOCs, TOC, CL

Q.C. Sample Type: MS/MSD Duplicate

**NOTE: Designate if a Field Blank is taken.**

**Trash picked up?**

SIGNED/SAMPLER:

## SAMPLING

Time: 015

Method of Sample Collection: Flute

**Duplicate Sample ID:**

**Dup. Time:**

## Well locked?

Project 2x

Sampled on 3rd  
Purge



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number:	Field Crew: C. Ross	5 Graham	Purpose of Sampling:	Annual LTMP Groundwater Sampling
Site:	2040 West River Drive, Davenport, Iowa	Field Conditions:	PBF Overcast	

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

## PURGE METHOD

Date: *NA* Time: *NA* Method: *Low-flow*  
Total Well Depth (DTB) (ft) = *NA* Pump Type: *Peristaltic*  
Depth to Water (DTW) (ft) = *NA*  
Water Column (ft) = *NA* *Flute*  
Comments:

**Volume Calculations:**  
 (DTB - DTW x Vol./ft. = Gals./well volume)

<u>Diameter</u>	<u>Vol./ft.</u>
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

### OBSERVATIONS

Odor (circle one):	None	Low	High	H <sub>2</sub> S	Fuel Like	Other:
Turbidity (circle one):	None	Low	Medium	High	Heavy Silts	
Comments:						

## FIELD PARAMETERS

[illegible]

## SAMPLING

Date: 6/12/18  
Sample ID: AFDV-12a  
Analytical Parameters: VOCs, TOC, CL + MUA  
Q.C. Sample Type: MS/MSD Duplicate  
Time: 1135  
Method of Sample Collection: AAD Fluid  
Duplicate Sample ID:

**Dup. Time:**

purged ~~Box~~ 2x  
Sampled on 3rd purge

**NOTE:** Designate if a Field Blank is taken.

Trash picked up? ☒

Well locked? ☒

**SIGNED/SAMPLER:**



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-25 Field Crew: J. Sutton

Purpose of Sampling: Annual LTMP Groundwater Sampling

Site: 2040 West River Drive, Davenport, Iowa Field Conditions: sunny, breeze, 71°F

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Pickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/13/18 Time: 0914 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 40.43 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 11.41  
 Water Column (ft) = 29.02  
 Comments:

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
0923	164	11.57	15.34	2.303	1.889	6.37	1.11	11.1	-26.5	13.9	black specks in water
0928	164	11.58	15.63	2.370	1.948	6.42	0.74	7.4	-31.6	5.2	none
0933	164	11.61	16.40	2.335	1.919	6.45	0.59	6.0	-31.8	3.2	none
0938	164	11.64	15.38	1.988	1.609	6.64	0.47	4.7	-42.0	2.5	clear
0943	164	11.66	15.63	1.826	1.495	6.73	0.47	4.7	-54.5	1.8	clear
0948	164	11.69	16.03	1.594	1.314	6.79	0.41	4.1	-62.9	0.4	clear
0953	164	11.70	16.01	1.560	1.295	6.79	0.40	4.1	-60.5	0.0	clear
0958	164	11.72	16.10	1.554	1.256	6.80	0.36	3.7	-63.1	1.0	clear
sampled at 1000 on 6/13/18											

## SAMPLING

Date: 6/13/18

Time: 1000

Sample ID: AFDV-130

Method of Sample Collection: low flow peristaltic

Analytical Parameters: VOC, TOC, Chloride, MNA, dis. Gases

Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: \_\_\_\_\_

Dup. Time: \_\_\_\_\_

NOTE: Designate if a Field Blank is taken.

Trash picked up? yes

Well locked? yes

SIGNED/SAMPLER: J. Sutton



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: \_\_\_\_\_ Field Crew: C. Rossi / J. Graham FIELD DATA SHEET - GROUNDWATER SAMPLING  
Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 54°F Purpose of Sampling: Sum Annual LTMP Groundwater Sampling

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Slickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

## WELL CONDITION (

Date: NA Time: NA Method: Low-Flow  
Total Well Depth (DTB) (ft) = NA Pump Type: Peristaltic  
Depth to Water (DTW) (ft) = NA  
Water Column (ft) = NA  
Comments: Flute

## PURGE METHOD

Volume Calculations:  
(DTB - DTW x Vol./ft. = Gals./well volume)

<u>Diameter</u>	<u>Vol./ft.</u>
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Odor (circle one):	None	Low	High	HS	Fuel Like	OB
Turbidity (circle one):	None	Low	Medium	High	Heavy Silts	Other:
Comments:						

### OBSERVATIONS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	FIELD PARAMETERS						Comments
					Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	
00:00	100	10	20	150	150	7.5	8.0	100	100	100	
00:05	100	10	20	150	150	7.5	8.0	100	100	100	
00:10	100	10	20	150	150	7.5	8.0	100	100	100	
00:15	100	10	20	150	150	7.5	8.0	100	100	100	
00:20	100	10	20	150	150	7.5	8.0	100	100	100	
00:25	100	10	20	150	150	7.5	8.0	100	100	100	
00:30	100	10	20	150	150	7.5	8.0	100	100	100	
00:35	100	10	20	150	150	7.5	8.0	100	100	100	
00:40	100	10	20	150	150	7.5	8.0	100	100	100	
00:45	100	10	20	150	150	7.5	8.0	100	100	100	
00:50	100	10	20	150	150	7.5	8.0	100	100	100	
00:55	100	10	20	150	150	7.5	8.0	100	100	100	
01:00	100	10	20	150	150	7.5	8.0	100	100	100	
01:05	100	10	20	150	150	7.5	8.0	100	100	100	
01:10	100	10	20	150	150	7.5	8.0	100	100	100	
01:15	100	10	20	150	150	7.5	8.0	100	100	100	
01:20	100	10	20	150	150	7.5	8.0	100	100	100	
01:25	100	10	20	150	150	7.5	8.0	100	100	100	
01:30	100	10	20	150	150	7.5	8.0	100	100	100	
01:35	100	10	20	150	150	7.5	8.0	100	100	100	
01:40	100	10	20	150	150	7.5	8.0	100	100	100	
01:45	100	10	20	150	150	7.5	8.0	100	100	100	
01:50	100	10	20	150	150	7.5	8.0	100	100	100	
01:55	100	10	20	150	150	7.5	8.0	100	100	100	
02:00	100	10	20	150	150	7.5	8.0	100	100	100	
02:05	100	10	20	150	150	7.5	8.0	100	100	100	
02:10	100	10	20	150	150	7.5	8.0	100	100	100	
02:15	100	10	20	150	150	7.5	8.0	100	100	100	
02:20	100	10	20	150	150	7.5	8.0	100	100	100	
02:25	100	10	20	150	150	7.5	8.0	100	100	100	
02:30	100	10	20	150	150	7.5	8.0	100	100	100	
02:35	100	10	20	150	150	7.5	8.0	100	100	100	
02:40	100	10	20	150	150	7.5	8.0	100	100	100	
02:45	100	10	20	150	150	7.5	8.0	100	100	100	
02:50	100	10	20	150	150	7.5	8.0	100	100	100	
02:55											

[illegible]

Date: 6/12/18  
Sample ID: AFDV-131  
Analytical Parameters: VOC, TOC, CL, MW  
Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Time: 1450  
Method of Sample Collection: Fluk

## SAMPLING

Trash picked up?  
SIGNED/SAMPLER:

Well locked?

Range 2x  
Sample on 3rd



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number:	Field Crew:	FIELD DATA SHEET - GROUNDWATER SAMPLING			
Site:	2040 West River Drive, Davenport, Iowa	Field Conditions:	84°F	Purpose of Sampling:	Annual LTMP Groundwater Sampling

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / (Stickup)	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

**WELL CONDITION**

Date: NA Time: NA Method: Low-flow  
Total Well Depth (DTB) (ft) = NA Pump Type: Peristaltic

**Volume Calculations:**  
(DTB - DTW x Vol./ft. = Gals./well volume)

$$\text{Depth to Water (DTW) (ft)} = 11.4$$

Water Column (ft) = NA

**Comments:**

<u>Diameter</u>	<u>Vol./ft.</u>
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

### OBSERVATIONS

Odor (circle one):	None	Low	High	HS	Fuel Like
Turbidity (circle one):	None	Low	Medium	High	Heavy Silts
Comments:					

## FIELD PARAMETERS

[illegible]

## SAMPLING

Date: 6/12/18  
Sample ID: AFDV-132  
Analytical Parameters: VOCs TOC, CL + MNA  
Q.C. Sample Type: MS/MSD Duplicate  
Duplicate Sample ID: AFDV-133

Dup. Time: 1515

Purge  $2x$  then  
Sample on 3rd time

Trash picked up?

Well locked?

**SIGNED/SAMPLER:**



BW-26-395'

## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: Field Crew: C. Raus J. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
Site: 2040 West River Drive, Davenport, Iowa Field Conditions:

Well Pad Acceptable Not Acceptable Explain:  
Flushmount / Stickup Acceptable Not Acceptable Explain:  
Well Casing Acceptable Not Acceptable Explain:  
Locking Cap Acceptable Not Acceptable Explain:

## WELL CONDITION

Date: NA Time: NA Method: Low-flow  
Total Well Depth (DTB) (ft) = NA Pump Type: Peristaltic  
Depth to Water (DTW) (ft) = NA  
Water Column (ft) = NA  
Comments: Fluke

## PURGE METHOD

Volume Calculations:  
(DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Odor (circle one): None Low High HS Fuel Like  
Turbidity (circle one): None Low Medium High Heavy Silts  
Comments:

## OBSERVATIONS

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
/	/	Not	/	Appl. cable	/	/	Fluke	/	/	Well	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/	/	/	/

## SAMPLING

Date: 6/12/18 Time: 1500  
Sample ID: AFDV-134  
Analytical Parameters: Vals, TOL, CL, MVA  
Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID:

Fluke well

Purge 2X

NOTE: Designate if a Field Blank is taken.

Dup. Time:

Trash picked up?  
SIGNED/SAMPLER:

Well locked?

Sample on 3rd purge



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-27 Field Crew: S. Bigdeli

Purpose of Sampling: Annual LTMP Groundwater Sampling

Site: 2040 West River Drive, Davenport, Iowa

Field Conditions: Cloudy, 76°F

## WELL CONDITION

Well Bore: Acceptable Not Acceptable Explain:  
Plushmount: Acceptable Not Acceptable Explain:  
Well Casing: Acceptable Not Acceptable Explain:  
Locking Cap: Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/14/18 Time: 11:05 Method: Low-flow  
Total Well Depth (DTB) (ft) = 40.4 Pump Type: Peristaltic

Volume Calculations:

(DTB - DTW) x Vol./ft. = Gals./well volume)

Depth to Water (DTW) (ft) = 4.63

Water Column (ft) = 35.8

Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like  
Turbidity (circle one): None Low Medium High Heavy Silts

Other: Had black specks and then permanganate for first minute of purging then water cleared up.

Comments: H<sub>2</sub>S odor on initial 5 minutes, no odor after

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1110	<u>170</u>	<u>5.21</u>	<u>14.62</u>	<u>1.700</u>	<u>1.367</u>	<u>6.63</u>	<u>1.84</u>	<u>17.7</u>	<u>6.4</u>	<u>12.1</u>	<u>Clear, occasional black flake, H<sub>2</sub>S odor</u>
1115	<u>170</u>	<u>5.42</u>	<u>15.21</u>	<u>1.674</u>	<u>1.361</u>	<u>6.75</u>	<u>0.52</u>	<u>5.2</u>	<u>-75.7</u>	<u>0.1</u>	<u>Clear, occasional black flake, no odor</u>
1120	<u>170</u>	<u>5.47</u>	<u>15.09</u>	<u>1.659</u>	<u>1.342</u>	<u>6.76</u>	<u>0.54</u>	<u>5.4</u>	<u>-72.4</u>	<u>7.4</u>	<u>" "</u>
1125	<u>170</u>	<u>5.51</u>	<u>14.91</u>	<u>1.571</u>	<u>1.267</u>	<u>6.81</u>	<u>0.44</u>	<u>4.4</u>	<u>-141.9</u>	<u>7.5</u>	<u>" "</u>
1130	<u>170</u>	<u>5.48</u>	<u>14.90</u>	<u>1.516</u>	<u>1.224</u>	<u>6.83</u>	<u>0.37</u>	<u>3.7</u>	<u>-156.3</u>	<u>10.1</u>	<u>" "</u>
1135	<u>170</u>	<u>5.76</u>	<u>14.78</u>	<u>1.499</u>	<u>1.212</u>	<u>6.83</u>	<u>0.40</u>	<u>4.0</u>	<u>-157.6</u>	<u>4.5</u>	<u>" "</u>
1140	<u>170</u>	<u>5.83</u>	<u>14.84</u>	<u>1.493</u>	<u>1.203</u>	<u>6.83</u>	<u>0.38</u>	<u>3.8</u>	<u>-154.9</u>	<u>6.4</u>	<u>" "</u>

SB 6/14/18

## SAMPLING

Date: 6/14/18

Time: 1145

Sample ID: AFDU-135

Method of Sample Collection: Low flow peristaltic

Analytical Parameters: Vols, Chloride, TOC

Q.C. Sample Type: NA MS/MSD Duplicate

Duplicate Sample ID:

Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up? Y

Well locked? Yes

SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-28 Field Crew: J. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Overcast ~65°F

## WELL CONDITION

Well Pad: Acceptable Not Acceptable Explain:  
 Flushmount / Stickup: Acceptable Not Acceptable Explain:  
 Well Casing: Acceptable Not Acceptable Explain:  
 Locking Cap: Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/14 Time: 0945 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 40.39 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 30.0  
 Water Column (ft) = 30.59  
 Comments:

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

Some large black particulates → purpleish brown after ~2 min → clear @ 0950

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cm)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>0950</u>	<u>Start Purge</u>			<u>Ascent</u>	<u>Ascent</u>						
<u>1000</u>	<u>114</u>	<u>4.20</u>	<u>14.84</u>	<u>1417</u>	<u>1140</u>	<u>7.15</u>	<u>2.63</u>	<u>25.5</u>	<u>301.1</u>	<u>137.2</u>	
<u>1005</u>	<u>114</u>	<u>4.20</u>	<u>14.22</u>	<u>2824</u>	<u>2243</u>	<u>6.98</u>	<u>0.86</u>	<u>8.4</u>	<u>299.5</u>	<u>102.6</u>	
<u>1010</u>	<u>114</u>	<u>4.20</u>	<u>14.50</u>	<u>2827</u>	<u>2260</u>	<u>6.97</u>	<u>0.57</u>	<u>3.7</u>	<u>292.4</u>	<u>74.9</u>	
<u>1015</u>	<u>114</u>	<u>4.19</u>	<u>14.68</u>	<u>2830</u>	<u>2272</u>	<u>7.10</u>	<u>1.07</u>	<u>10.5</u>	<u>285.0</u>	<u>53.6</u>	
<u>1020</u>	<u>114</u>	<u>4.19</u>	<u>14.44</u>	<u>2933</u>	<u>2265</u>	<u>7.05</u>	<u>0.61</u>	<u>6.0</u>	<u>280.7</u>	<u>42.3</u>	
<u>1025</u>	<u>114</u>	<u>4.19</u>	<u>14.21</u>	<u>2770</u>	<u>2225</u>	<u>7.00</u>	<u>0.40</u>	<u>4.0</u>	<u>273.5</u>	<u>51.1</u>	
<u>1030</u>	<u>114</u>	<u>4.22</u>	<u>14.73</u>	<u>2744</u>	<u>2205</u>	<u>6.92</u>	<u>0.59</u>	<u>5.9</u>	<u>267.7</u>	<u>69.3</u>	
<u>1035</u>	<u>114</u>	<u>4.24</u>	<u>14.50</u>	<u>2721</u>	<u>2175</u>	<u>7.07</u>	<u>0.39</u>	<u>3.9</u>	<u>261.6</u>	<u>23.4</u>	
<u>1040</u>	<u>114</u>	<u>4.25</u>	<u>14.57</u>	<u>2699</u>	<u>2159</u>	<u>7.06</u>	<u>0.45</u>	<u>4.5</u>	<u>258.0</u>	<u>18.2</u>	
<u>1045</u>	<u>114</u>	<u>4.25</u>	<u>14.52</u>	<u>2680</u>	<u>2144</u>	<u>7.03</u>	<u>0.44</u>	<u>4.3</u>	<u>254.6</u>	<u>8.0</u>	
<u>1050</u>	<u>114</u>	<u>4.26</u>	<u>14.53</u>	<u>2666</u>	<u>2133</u>	<u>7.04</u>	<u>0.42</u>	<u>4.2</u>	<u>253.6</u>	<u>7.0</u>	
<u>1055</u>	<u>114</u>	<u>4.26</u>	<u>14.34</u>	<u>2652</u>	<u>2111</u>	<u>6.97</u>	<u>0.51</u>	<u>4.9</u>	<u>248.8</u>	<u>9.6</u>	
<u>1100</u>	<u>SAMPLE</u>										

## SAMPLING

Date: 6/14/18 Time: 1100  
 Sample ID: AFDV-136 Method of Sample Collection: Low Flow Peristaltic  
 Analytical Parameters: TOC, VOC, chloride  
 Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

Well locked? Yes

SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: SW-31 Field Crew: J. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Overcast 65°F 1-5618-2020

WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount/ Stickup	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

PURGE METHOD

Date: 6/14 Time: 0845 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 36.34 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 5.31  
 Water Column (ft) = 31.03  
 Comments:

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts

Comments: Heavy particulates at start Dark gray/Black 0850 water cleared to gray connect to flow-through

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (mS/cmC)	Conductivity (mS/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
0845	Begin Purge										
0855	126	5.52	14.69	1573	1312	6.81	4.08	40.3	343.3	26.2	
0900	126	5.54	14.33	1568	1248	6.65	1.30	12.7	332.0	12.6	
0905	126	5.54	14.39	1564	1247	6.71	6.80	7.8	281.8	7.7	
0910	126	5.55	14.42	1567	1250	6.71	1.50	14.7	330.2	2.6	
0915	126	5.55	14.38	1566	1248	6.74	0.68	6.7	336.1	2.2	
0920	126	5.56	14.44	1566	1250	6.75	0.60	6.0	329.4	2.5	
0925	126	5.56	14.46	1566	1251	6.75	0.89	8.6	327.8	2.2	
0930	SAMPLE										

SAMPLING

Date: 6/14/16 Time: 0930  
 Sample ID: AFDW-137 Method of Sample Collection: Low Flow Peristaltic  
 Analytical Parameters: VOCs, TOC, chloride

Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: Dup. Time:

NOTE: Designate if a Field Blank is taken.

Trash picked up?

SIGNED/SAMPLER: Yes

Well locked?

Yes



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW33 Field Crew: J. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 80°F Sunny

Well Pad: Acceptable Not Acceptable Explain:  
 Plushmount/ Stickup: Acceptable Not Acceptable Explain:  
 Well Casing: Acceptable Not Acceptable Explain:  
 Locking Cap: Acceptable Not Acceptable Explain:

## WELL CONDITION

Date: 6/13/18 Time: 1335 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 53.01 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 4.70  
 Water Column (ft) = 28.31

## PURGE METHOD

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

Comments:

Dark Brown/Orange water during start of purge Purged until 1350 to clear H<sub>2</sub>O

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:

Turbidity (circle one): None Low Medium High Heavy Silts

Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (µmS/cmC)	Conductivity (µmS/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>1335</u>	<u>Start Purge</u>			<u>25/cm</u>	<u>25/cm</u>						
<u>1355</u>	<u>140</u>	<u>5.68</u>	<u>20.05</u>	<u>2609</u>	<u>2353</u>	<u>6.40</u>	<u>1.41</u>	<u>14.7</u>	<u>65.9</u>	<u>327.8</u>	
<u>1400</u>	<u>140</u>	<u>5.60</u>	<u>19.26</u>	<u>2575</u>	<u>2244</u>	<u>6.23</u>	<u>0.74</u>	<u>10.1</u>	<u>100.0</u>	<u>365.9</u>	
<u>1405</u>	<u>140</u>	<u>5.60</u>	<u>17.96</u>	<u>2556</u>	<u>2212</u>	<u>6.13</u>	<u>0.76</u>	<u>8.3</u>	<u>137.3</u>	<u>375.0</u>	
<u>1410</u>	<u>140</u>	<u>5.61</u>	<u>17.82</u>	<u>2553</u>	<u>2203</u>	<u>6.15</u>	<u>0.88</u>	<u>9.4</u>	<u>141.4</u>	<u>322.1</u>	
<u>1415</u>	<u>140</u>	<u>5.61</u>	<u>17.66</u>	<u>2549</u>	<u>2193</u>	<u>6.17</u>	<u>0.57</u>	<u>0.0</u>	<u>138.9</u>	<u>254.6</u>	
<u>1420</u>	<u>140</u>	<u>5.61</u>	<u>17.80</u>	<u>2543</u>	<u>2193</u>	<u>6.18</u>	<u>0.40</u>	<u>4.2</u>	<u>135.6</u>	<u>258.0</u>	
<u>1425</u>	<u>140</u>	<u>5.61</u>	<u>17.81</u>	<u>2538</u>	<u>2190</u>	<u>6.20</u>	<u>0.49</u>	<u>5.0</u>	<u>135.5</u>	<u>249.9</u>	
<u>1430</u>	<u>SAMPLE</u>										

## SAMPLING

Date: 6/13/18 Time: 1430  
 Sample ID: AFDV-138 Method of Sample Collection: Grab

Analytical Parameters: VOCs, TOC, chloride

Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID:

Dup. Time:

NOTE: Designate if a Field Blank is taken

Trash picked up? Yes

Well locked? Yes

SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-31 Field Crew: C. Reuss Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 82°F Sunny light breeze

WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

PURGE METHOD

Date: 6/13/18 Time: 1330 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) =            Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 4.30  
 Water Column (ft) = NA 32.94  
 Comments: NA see water level form for total depth

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

1332 start purging

FIELD PARAMETERS											
Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (µmS/cm)	Conductivity (µmS/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1347	156	4.80	16.46	1186	993	5.74	0.58	8.0	-19.2	1.5	
1347	156	4.98	16.16	1174	976	5.70	0.70	7.7	-11.0	1.4	
1352	156	5.08	16.14	1168	971	5.78	0.59	6.0	-13.4	0.0	
1357	156	5.20	16.13	1168	969	5.85	0.55	5.5	-11.6	0.0	
1402	156	5.28	16.17	1167	970	5.95	0.49	5.1	-12.2	0.0	
1407	156	5.33	16.20	1161	967	5.99	0.46	4.6	-17.7	0.0	
1412	156	5.38	16.22	1161	967	6.03	0.44	4.5	-18.8	0.0	
Sample	Well										

SAMPLING

Date: 6/13/18 Time: 1420  
 Sample ID: AFON-139 Method of Sample Collection: low flow  
 Analytical Parameters: VOC, CL, TOC  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: NA Dup. Time:  
 NOTE: Designate if a Field Blank is taken.  
 Trash picked up? Y Well locked?             
 SIGNED/SAMPLER:



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-35 Field Crew: Shawn Bigham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny, high 70s

Well Pad: Acceptable Not Acceptable Explain:  
 Flushmount / Stickup: Acceptable Not Acceptable Explain:  
 Well Casing: Acceptable Not Acceptable Explain:  
 Locking Cap: Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/13/18 Time: 1344 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 4.50 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 34.86  
 Water Column (ft) = 30.36  
 Comments:

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1344	180	5.28	17.21	0.896	0.761	6.98	0.88	9.0	-92.6	0.0	Clear, fuel odor
1349	180	5.57	17.06	0.839	0.711	6.92	0.42	4.3	-86.6	0.8	" "
1354	180	5.74	16.91	0.824	0.696	6.93	0.29	3.0	-84.4	1.9	" "
1359	180	5.79	16.82	0.818	0.690	6.93	0.27	2.8	-84.2	1.6	" "
1404	180	5.85	16.88	0.816	0.689	6.94	0.27	2.7	-83.3	0.8	" "

SB 6/13/18

## SAMPLING

Date: 6/13/18 Time: 1410  
 Sample ID: AFOV-140 Method of Sample Collection: Peristaltic Pump Grab  
 Analytical Parameters: VOC, TOC, Chloride  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: Dup. Time:  
 NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

SIGNED/SAMPLER: [Signature]

Well locked? Yes



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-37 Field Crew: Steven Byda Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny, 90°F

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/13/18 Time: 1509 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 5.72 Pump Type: Peristaltic

Depth to Water (DTW) (ft) = 34.69

Water Column (ft) = 28.97

Comments:

## Volume Calculations:

(DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:

Turbidity (circle one): None Low Medium High Heavy Silts

Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1513	170	6.72	17.79	2.352	2.034	10.23	0.14	1.4	-285.6	6.5	Clear, no odor
1518	170	7.92	18.52	2.370	2.075	10.22	0.06	0.6	-290.5	2.5	" "
1523	170	8.10	18.66	2.368	2.081	6.23	0.04	0.4	-286.9	3.7	" "
1528	170	9.39	18.73	2.360	2.077	6.24	0.03	0.3	-285.0	3.2	" "
1533	170	9.73	18.83	2.357	2.080	6.24	0.03	0.3	-284.5	3.5	" "

## SAMPLING

Date: 6/13/18

Time: 1540

Sample ID: AFDV-141

Method of Sample Collection: Peristaltic Pump

Analytical Parameters: NO<sub>3</sub>, TOL, Chloride

Q.C. Sample Type: MS/MSD

Duplicate

Duplicate Sample ID: AFDV-142

Dup. Time: 1545

NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

Well locked? Yes

SIGNED/SAMPLER: Steven Byda



## FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: P201 Field Crew: J. Grahn Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny 1.5 ft w.l.d.

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 6/13/18 Time: 1505 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 33.39 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 7.40  
 Water Column (ft) = 24.99  
 Comments:

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
<u>1"</u>	0.04
<u>1.25"</u>	0.06
<u>2"</u>	0.16
	0.65

Dr 12 Purple @ Start of Spurge 1515 connect to flow through

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments: PURPLE

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (µm/cmC)	Conductivity (µm/cmC)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>1505</u>	<u>Start purge</u>										
<u>1525</u>	<u>70</u>	<u>11.76</u>	<u>27.02</u>	<u>1870</u>	<u>1800</u>	<u>2.04</u>	<u>2.34</u>	<u>27.3</u>	<u>626.0</u>	<u>132.7</u>	<u>Purple</u>
<u>1530</u>	<u>70</u>	<u>11.58</u>	<u>21.54</u>	<u>2038</u>	<u>1702</u>	<u>6.88</u>	<u>2.87</u>	<u>32.6</u>	<u>654.5</u>	<u>118.6</u>	
<u>1535</u>	<u>70</u>	<u>11.40</u>	<u>21.32</u>	<u>2212</u>	<u>2057</u>	<u>6.77</u>	<u>2.85</u>	<u>32.4</u>	<u>670.4</u>	<u>118.9</u>	
<u>1540</u>	<u>70</u>	<u>11.65</u>	<u>21.34</u>	<u>2267</u>	<u>2111</u>	<u>6.71</u>	<u>2.73</u>	<u>31.0</u>	<u>675.3</u>	<u>120.9</u>	
<u>1545</u>	<u>70</u>	<u>11.74</u>	<u>21.86</u>	<u>2396</u>	<u>2254</u>	<u>6.74</u>	<u>2.81</u>	<u>32.3</u>	<u>679.5</u>	<u>126.7</u>	
<u>1550</u>	<u>70</u>	<u>11.79</u>	<u>21.53</u>	<u>2470</u>	<u>2315</u>	<u>6.68</u>	<u>2.81</u>	<u>32.5</u>	<u>684.7</u>	<u>138.1</u>	
<u>1555</u>	<u>70</u>	<u>11.88</u>	<u>21.60</u>	<u>2574</u>	<u>2352</u>	<u>6.63</u>	<u>3.11</u>	<u>35.4</u>	<u>690.0</u>	<u>148.5</u>	
<u>1600</u>	<u>70</u>	<u>11.89</u>	<u>21.08</u>	<u>2591</u>	<u>2390</u>	<u>6.61</u>	<u>3.16</u>	<u>35.7</u>	<u>692.8</u>	<u>151.5</u>	
<u>1605</u>	<u>70</u>	<u>11.92</u>	<u>21.29</u>	<u>2664</u>	<u>2475</u>	<u>6.61</u>	<u>3.19</u>	<u>36.3</u>	<u>695.2</u>	<u>143.7</u>	
<u>1610</u>	<u>70</u>	<u>11.90</u>	<u>21.12</u>	<u>2667</u>	<u>2469</u>	<u>6.60</u>	<u>3.48</u>	<u>39.4</u>	<u>697.6</u>	<u>158.9</u>	
<u>1615</u>	<u>70</u>	<u>11.94</u>	<u>21.46</u>	<u>2804</u>	<u>2614</u>	<u>6.63</u>	<u>3.48</u>	<u>39.6</u>	<u>699.3</u>	<u>162.0</u>	
<u>1620</u>	<u>70</u>	<u>11.95</u>	<u>21.57</u>	<u>2849</u>	<u>2665</u>	<u>6.63</u>	<u>3.63</u>	<u>41.7</u>	<u>701.3</u>	<u>179.0</u>	
<u>1625</u>	<u>70</u>	<u>12.04</u>	<u>21.16</u>	<u>2911</u>	<u>2700</u>	<u>6.61</u>	<u>3.66</u>	<u>41.5</u>	<u>703.6</u>	<u>173.1</u>	
<u>1630</u>	<u>70</u>	<u>12.12</u>	<u>21.24</u>	<u>3002</u>	<u>2788</u>	<u>6.60</u>	<u>3.80</u>	<u>43.2</u>	<u>705.0</u>	<u>180.0</u>	
<u>1635</u>	<u>70</u>	<u>12.06</u>	<u>21.28</u>	<u>3038</u>	<u>2822</u>	<u>6.59</u>	<u>3.97</u>	<u>45.3</u>	<u>706.2</u>	<u>185.3</u>	
<u>1640</u>	<u>SAMPLE</u>										

## SAMPLING

Date: 6/13 Time: 1600  
 Sample ID: AFDU-443 Method of Sample Collection: Grab  
 Analytical Parameters: VOC, TOC, chloride  
 Q.C. Sample Type: NA MS/MSD Duplicate Duplicate Sample ID: \_\_\_\_\_ Dup. Time: \_\_\_\_\_  
 NOTE: Designate if a Field Blank is taken.

Trash picked up?

SIGNED/SAMPLER: yes [Signature]

Well locked? yes



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-02 Field Crew: 90 Sunny Km/PSchlott Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions:

## WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount/ <u>Stickup</u>	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain: <u>No label</u>
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

## PURGE METHOD

Date: 7/12/18 Time: 1100 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 23.97 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 4.96  
 Water Column (ft) = 19.01  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	<u>0.16</u>
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cm)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>1110</u>		<u>6.14</u>	<u>18.54</u>	<u>1837</u>	<u>1661.64</u>	<u>6.83</u>	<u>0.82</u>	<u>8.8</u>	<u>23.0</u>	<u>28.7</u>	<u>Slightly cloudy</u>
<u>1115</u>		<u>6.73</u>	<u>19.12</u>	<u>1821</u>	<u>1.616</u>	<u>7.31</u>	<u>0.82</u>	<u>5.6</u>	<u>-23.4</u>	<u>30.7</u>	
<u>1120</u>		<u>6.92</u>	<u>19.25</u>	<u>1801</u>	<u>1.603</u>	<u>7.20</u>	<u>0.41</u>	<u>4.4</u>	<u>-24.3</u>	<u>29.0</u>	
<u>1125</u>		<u>6.97</u>	<u>19.70</u>	<u>1792</u>	<u>1.446</u>	<u>6.99</u>	<u>0.38</u>	<u>4.1</u>	<u>-24.1</u>	<u>29.5</u>	
<u>1130</u>		<u>7.02</u>	<u>20.24</u>	<u>1789</u>	<u>1.673</u>	<u>7.05</u>	<u>0.32</u>	<u>4.2</u>	<u>-24.9</u>	<u>28.4</u>	
<u>1135</u>		<u>7.02</u>	<u>20.22</u>	<u>1799</u>	<u>1.634</u>	<u>7.04</u>	<u>0.38</u>	<u>4.2</u>	<u>-24.6</u>	<u>28.5</u>	

Sampled @ 1140

## SAMPLING

Date: 7/12/18 Time: 1140  
 Sample ID: AFON-230 Method of Sample Collection: Peristaltic/grab  
 Analytical Parameters: YAS  
 Q.C. Sample Type: N/A MS/MSD Duplicate Duplicate Sample ID: N/A Dup. Time: N/A  
 NOTE: Designate if a Field Blank is taken.  
 Trash picked up? Y Well locked? Y  
 SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: DW-14 Field Crew: Y. Ma / D. Schuster Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 92 sunny

## WELL CONDITION

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount (Stickup)	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

## PURGE METHOD

Date: 7/10/18 Time: 1500 Method: Low-flow Volume Calculations: 4.78 gal  
 Total Well Depth (DTB) (ft) = 40.09 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 10.21  
 Water Column (ft) = 29.88

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

PID = 963 569 well  
 (W) 00 = BZ

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other: gray tint  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1500	20300 (W)	10.5	18.5	2851	2.358	6.80	0.401	6.4	-228.1	0	gray tint
1525	22300 (W)	14.51	17.51	2783	2.388	7.13	0.28	2.9	-228.2	0	
1530	225	14.41	18.20	2829	2.468	6.85	0.25	2.7	-216.6	1.5	
1535	225	14.46	18.30	2876	2.508	6.74	0.21	2.3	-212.4	0	
1540	225	14.51	18.40	2925	2.536	6.66	0.20	2.1	-227.7	-218.3	2.8 (turb)
1545	225	14.53	18.29	2955	2.556	6.68	0.18	2.0	-219.4	0	
1550	225	14.51	18.34	2948	2.560	6.60	0.18	1.9	-225	0	
- End - Sample time @ 1555/1600											

## SAMPLING

Date: 7/10/18 Time: 1555  
 Sample ID: AFDV-228 J.C.S. Method of Sample Collection: grab  
 Analytical Parameters: Q.C. Sample Type: MS/MSD Duplicate Sample ID: AFDV-229 Dup. Time: 1600  
 NOTE: Designate if a Field Blank is taken.

Trash picked up?

SIGNED/SAMPLER:

Well locked?



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-09 Field Crew: J. Graham / S. Bigda Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny 80°F

## WELL CONDITION

Well Pad: 389 Acceptable Not Acceptable Explain:  
 Flammable / Slipup: Acceptable Not Acceptable Explain:  
 Well Casing: Acceptable Not Acceptable Explain:  
 Locking Cap: Acceptable Not Acceptable Explain: Broken

## PURGE METHOD

Date: 9/12/18 Time: 1617 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 30.24 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 3.249  
 Water Column (ft) = 26.75  
 Comments: PID = 0.0

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1620	<u>280</u>	<u>5.28</u>	<u>17.94</u>	<u>1.747</u>	<u>1.686</u>	<u>6.71</u>	<u>0.67</u>	<u>7.1</u>	<u>-92.2</u>	<u>7.1</u>	
1625	<u>280</u>	<u>5.92</u>	<u>17.68</u>	<u>1.720</u>	<u>1.651</u>	<u>6.57</u>	<u>0.47</u>	<u>5.0</u>	<u>-108.7</u>	<u>2.8</u>	
1630	<u>280</u>	<u>6.70</u>	<u>17.47</u>	<u>1.890</u>	<u>1.619</u>	<u>6.54</u>	<u>0.45</u>	<u>4.7</u>	<u>-115.3</u>	<u>1.4</u>	
1635	<u>280</u>	<u>6.79</u>	<u>17.49</u>	<u>1.804</u>	<u>1.596</u>	<u>6.49</u>	<u>0.43</u>	<u>4.5</u>	<u>-122.8</u>	<u>1.0</u>	
1640	<u>280</u>	<u>7.25</u>	<u>17.29</u>	<u>1.849</u>	<u>1.576</u>	<u>6.45</u>	<u>0.40</u>	<u>4.2</u>	<u>-125.6</u>	<u>1.9</u>	
1645	<u>280</u>	<u>7.47</u>	<u>17.31</u>	<u>1.835</u>	<u>1.565</u>	<u>6.44</u>	<u>0.40</u>	<u>4.2</u>	<u>-127.3</u>	<u>0.9</u>	
1650	<u>280</u>	<u>7.47</u>									
1655	<u>SAMPLE</u>										

## SAMPLING

Date: 9/12 Time: 1655  
 Sample ID: AEDU-402 Method of Sample Collection: Grab

Analytical Parameters: D. Dissolved Gases

Q.C. Sample Type: None MS/MSD Duplicate

Duplicate Sample ID: N/A

Dup. Time: N/A

NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

SIGNED/SAMPLER: [Signature]

Well locked? N/A Broken Top see above picture



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-14 Field Crew: S. Frankham / S. B. Gier Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 80°F Sunny

## WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

## PURGE METHOD

Date: 9/12/18 Time: 1504 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 40.10 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 9.06  
 Water Column (ft) = 31.04  
 Comments: PID = 0.00 ppm

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1510	<u>Begin Purge</u>										
1515	<u>250</u>	<u>12.05</u>	<u>18.04</u>	<u>4.937</u>	<u>4.106</u>	<u>6.53</u>	<u>1.01</u>	<u>10.8</u>	<u>-141.5</u>	<u>5.3</u>	
1520	<u>250</u>	<u>12.53</u>	<u>18.41</u>	<u>4.704</u>	<u>4.114</u>	<u>6.41</u>	<u>0.57</u>	<u>6.0</u>	<u>-149.7</u>	<u>7.1</u>	
1525	<u>250</u>	<u>12.78</u>	<u>18.56</u>	<u>4.822</u>	<u>4.232</u>	<u>6.40</u>	<u>0.47</u>	<u>5.0</u>	<u>-159.6</u>	<u>7.2</u>	
1530	<u>250</u>	<u>13.03</u>	<u>18.57</u>	<u>5.067</u>	<u>4.440</u>	<u>6.40</u>	<u>0.40</u>	<u>4.4</u>	<u>-165.3</u>	<u>5.0</u>	
1535	<u>250</u>	<u>13.11</u>	<u>18.25</u>	<u>5.237</u>	<u>4.566</u>	<u>6.40</u>	<u>0.38</u>	<u>4.1</u>	<u>-169.3</u>	<u>3.9</u>	
1540	<u>250</u>	<u>13.20</u>	<u>18.23</u>	<u>5.363</u>	<u>4.667</u>	<u>6.40</u>	<u>0.38</u>	<u>4.1</u>	<u>-171.5</u>	<u>3.4</u>	
1545	<u>250</u>	<u>13.23</u>	<u>18.59</u>	<u>5.530</u>	<u>4.837</u>	<u>6.40</u>	<u>0.35</u>	<u>3.8</u>	<u>-152.0</u>	<u>2.5</u>	
1550	<u>250</u>	<u>13.23</u>	<u>18.28</u>	<u>5.575</u>	<u>4.962</u>	<u>6.40</u>	<u>0.35</u>	<u>3.8</u>	<u>-155.1</u>	<u>2.2</u>	
1555	<u>250</u>	<u>13.23</u>	<u>18.10</u>	<u>5.611</u>	<u>4.878</u>	<u>6.41</u>	<u>0.35</u>	<u>3.8</u>	<u>-159.7</u>	<u>2.7</u>	
1600	<u>SAMPLE</u>										

## SAMPLING

Date: 9/12/18 Time: 1600  
 Sample ID: AFDV-403 Method of Sample Collection: Grab  
 Analytical Parameters: Dissolved Gases (MEE)  
 Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: AFDV-404  
 Dup. Time: 1665

NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

SIGNED/SAMPLER: [Signature]

Well locked? Yes



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BN-18 Field Crew: J. GRAHAM / S. B. G. P. A. Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny 70°F

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 9/13/18 Time: 1017 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 41.73 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 3.97  
 Water Column (ft) = 37.76  
 Comments: PID = 0.0

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<u>1020</u>	<u>Begin Purge</u>										
<u>1025</u>	<u>250</u>	<u>4.41</u>	<u>14.34</u>	<u>1.073</u>	<u>0.854</u>	<u>6.67</u>	<u>0.87</u>	<u>8.5</u>	<u>53.7</u>	<u>0.8</u>	
<u>1030</u>	<u>250</u>	<u>5.00</u>	<u>14.16</u>	<u>1.060</u>	<u>0.840</u>	<u>6.80</u>	<u>0.69</u>	<u>6.7</u>	<u>39.1</u>	<u>0.0</u>	
<u>1035</u>	<u>250</u>	<u>5.32</u>	<u>14.03</u>	<u>1.051</u>	<u>0.831</u>	<u>6.87</u>	<u>0.61</u>	<u>6.0</u>	<u>25.2</u>	<u>0.0</u>	
<u>1040</u>	<u>250</u>	<u>5.31</u>	<u>14.21</u>	<u>1.045</u>	<u>0.829</u>	<u>6.91</u>	<u>0.60</u>	<u>5.9</u>	<u>15.5</u>	<u>0.0</u>	
<u>1045</u>	<u>250</u>	<u>5.32</u>	<u>14.14</u>	<u>1.057</u>	<u>0.838</u>	<u>6.93</u>	<u>0.62</u>	<u>6.0</u>	<u>11.3</u>	<u>0.0</u>	
<u>1050</u>	<u>250</u>	<u>5.35</u>	<u>14.17</u>	<u>1.060</u>	<u>0.844</u>	<u>6.94</u>	<u>0.59</u>	<u>5.9</u>	<u>8.6</u>	<u>0.0</u>	
<u>1055</u>	<u>250</u>	<u>5.40</u>	<u>14.15</u>	<u>1.074</u>	<u>0.862</u>	<u>6.95</u>	<u>0.54</u>	<u>7.3</u>	<u>4.0</u>	<u>0.0</u>	
<u>1100</u>	<u>Sample</u>										

## SAMPLING

Date: 9/13/18 Time: 1100  
 Sample ID: AFDU-405 Method of Sample Collection: Grab  
 Analytical Parameters: VOCs, Dissolved gases, Solids, Iron, Chloride, DOC, Nitrate  
 Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: AFDU-406 Dup. Time: 1110  
 NOTE: Designate if a Field Blank is taken.  
 Trash picked up? Yes Well locked? Yes  
 SIGNED/SAMPLER: [Signature]



Well Number: <u>BLW-26-65</u>		Field Crew: <u>J. Trauernicht / S. B. Jordan</u>		Purpose of Sampling: <u>Annual LTMP Groundwater Sampling</u>	
Site: <u>2040 West River Drive, Davenport, Iowa</u>		Field Conditions: <u>Sunny 80°F</u>			

WELL CONDITION			
Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

Date: 9/13 1140 Time: ~~1140~~ Method: ~~Low-flow~~ **FLUTE** Volume Calculations:  
 Total Well Depth (DTB) (ft) = 65' Pump Type: ~~Peristaltic~~ (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 10.42  
 Water Column (ft) =  
 Comments: N/A

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

**FLUTE**

Odor (circle one):	None	Low	High	H <sub>2</sub> S	Fuel Like	Other:
Turbidity (circle one):	None	Low	Medium	High	Heavy Silts	
Comments:						

[illegible]

Date: 4/12/18 Time: 1405  
Sample ID: ARDV-407 Method of Sample Collection: Gray  
Analytical Parameters: Dissolved Gases (MEE)  
Q.C. Sample Type: None MS/MSD Duplicate Duplicate Sample ID: N/A Dup. Time: N/A  
NOTE: Designate if a Field Blank is taken.  
Trash picked up? Yes Well locked? Yes  
SIGNED/SAMPLER: [Signature]



Well Number: 80-26-85 Field Crew: J. K. Law / J. B. G. Purpose of Sampling: Annual LTMP Groundwater Sampling  
Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny 80°F

WELL CONDITION			
Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stuckup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

Date: 2/13/18 Time: 11:45 Method: ~~Low-flow~~ FLUTE  
 Total Well Depth (DTB) (ft) = 85' Pump Type: ~~Peristaltic~~  
 Depth to Water (DTW) (ft) = 10.65  
 Water Column (ft) =  
 Comments: N/A

**PURGE METHOD**  
 Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)  

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

 N/A FLUTE

OBSERVATIONS					
Odor (circle one):	None	Low	High	H <sub>2</sub> S	Fuel Like
Turbidity (circle one):	None	Low	Medium	High	Heavy Silts
Comments:					

[illegible]

Date: 9/12/18 Time: 1415  
Sample ID: AFDU-408 Method of Sample Collection: Gmb  
Analytical Parameters: Dissolved Gases (MCC)  
Q.C. Sample Type: MS/MSD Duplicate Sample ID: AFDU-409 Dup. Time: 1415  
NOTE: Designate if a Field Blank is taken.  
Trash picked up? Yes Well locked? Yes  
SIGNED/SAMPLER: [Signature]



Well Number: BW26-38 Field Crew: J. Graham / S.B.gdm Purpose of Sampling: Annual LTMP Groundwater Sampling  
Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny 80°F

Well Pad	Acceptable	Not Acceptable	Explain:
Flushmount / Stickup	Acceptable	Not Acceptable	Explain:
Well Casing	Acceptable	Not Acceptable	Explain:
Locking Cap	Acceptable	Not Acceptable	Explain:

Date: 9/13/18 Time: 11:47 Method: ~~Low Flow~~ Pump Type: ~~Peristaltic~~ FLUTE

Total Well Depth (DTB) (ft) = 39.5'  
Depth to Water (DTW) (ft) = 10.68  
Water Column (ft) =  
Comments: N/A

Volume Calculations:  
(DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

N/A

Odor (circle one):	None	<u>Low</u>	High	H <sub>2</sub> S	Fuel Like	Other:
Turbidity (circle one):	<u>None</u>	Low	Medium	High	Heavy Silts	
Comments:						

[illegible]

Date: 9/12/18 Time: 1415  
Sample ID: AFDV-410 Method of Sample Collection: Grab  
Analytical Parameters: Dissolved Gases (MEE)  
Q.C. Sample Type: None MS/MSD Duplicate Duplicate Sample ID: N/A

### Trash picked up?

## Well locked?

**SIGNED/SAMPLER:**



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-34 Field Crew: S. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny 80°F

## WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / Stickup	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

## PURGE METHOD

Date: 9/13/14 Time: 1256 Method: Low-flow Volume Calculations:  
 Total Well Depth (DTB) (ft) = 32.47 Pump Type: Peristaltic (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = 3.11  
 Water Column (ft) = 29.36  
 Comments:

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1300	Begin Purge										
1305	250	3.47	17.71	1.406	1.211	6.70	1.53	16.1	-36.0	0.5	
1310	250	3.95	16.64	1.396	1.173	6.39	1.14	11.7	-44.1	0.0	
1315	250	4.12	16.67	1.388	1.167	6.35	1.05	10.9	-72.6	0.0	
1320	250	4.28	16.57	1.387	1.165	6.34	0.65	6.6	-65.3	0.0	
1325	250	4.37	16.45	1.385	1.159	6.34	0.56	5.7	-72.6	0.0	
1330	250	4.46	16.46	1.383	1.157	6.36	0.57	5.8	-72.5	0.0	
1335	250	4.49	16.38	1.385	1.158	6.37	0.52	5.3	-74.4	0.0	
1340	SAMPLE										

## SAMPLING

Date: 9/13/14 Time: 1340  
 Sample ID: AEDU-411 Method of Sample Collection: Grab  
 Analytical Parameters: VOCs  
 Q.C. Sample Type: None MS/MSD Duplicate Duplicate Sample ID: N/A Dup. Time: N/A  
 NOTE: Designate if a Field Blank is taken.

Trash picked up? yes Well locked? yes  
 SIGNED/SAMPLER: [Signature]



# FIELD DATA SHEET - GROUNDWATER SAMPLING

Well Number: BW-37 Field Crew: \_\_\_\_\_  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: Sunny 80's Purpose of Sampling: Annual LTMP Groundwater Sampling

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## WELL CONDITION

Date: 9/13/18 Time: 1250 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 34.70 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 4.73  
 Water Column (ft) = 29.97  
 Comments: DID=0.0

## PURGE METHOD

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments:

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1252	250	5.94	20.31	2.485	2.257	6.19	0.38	4.2	-313.4	6.2	Obs, clear
1259	250	7.11	19.58	2.487	2.228	6.15	0.37	4.0	-314.6	5.6	" "
1304	250	7.64	19.41	2.478	2.213	6.01	0.34	3.7	-313.3	11.5	" "
1309	250	8.33	19.25	2.477	2.204	5.89	0.31	3.4	-314.9	12.4	" "
1314	250	9.28	18.89	2.479	2.191	5.88	0.30	3.2	-305.1	11.9	" "
1319	250	9.79	18.63	2.476	2.175	5.77	0.29	3.1	-296.5	15.7	" "
1324	250	10.03	18.56	2.474	2.156	5.77	0.30	3.2	-297.5	15.4	" "
1329	250	10.19	18.50	2.476	2.150	5.77	0.30	3.2	-299.6	15.1	" "
1335	SAMPLED										" "

## SAMPLING

Date: 9/13/18 Time: 1335  
 Sample ID: APDV-412 Method of Sample Collection: Low Flow  
 Analytical Parameters: UCLs

Q.C. Sample Type: MS/MSD Duplicate Duplicate Duplicate Sample ID: APDV-413 Dup. Time: 1340

NOTE: Designate if a Field Blank is taken.

Trash picked up? Yes

SIGNED/SAMPLER: \_\_\_\_\_

Well locked? Yes



## FIELD DATA SHEET - GROUNDWATER SAMPLING

December

Well Number: BW-16 Field Crew: K. Ma + J. Graham Purpose of Sampling: Annual LTMP Groundwater Sampling  
 Site: 2040 West River Drive, Davenport, Iowa Field Conditions: 35 f smny

## WELL CONDITION

Well Pad Acceptable Not Acceptable Explain:  
 Flushmount / Stickup Acceptable Not Acceptable Explain:  
 Well Casing Acceptable Not Acceptable Explain:  
 Locking Cap Acceptable Not Acceptable Explain:

## PURGE METHOD

Date: 12/5/18 Time: 1200 Method: Low-flow  
 Total Well Depth (DTB) (ft) = 33.45 Pump Type: Peristaltic  
 Depth to Water (DTW) (ft) = 4.44  
 Water Column (ft) = 29.01  
 Comments:

Volume Calculations:  
 (DTB - DTW x Vol./ft. = Gals./well volume)

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
2"	0.16
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments: purple

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
1105	start	purge		23%		6.1					purple
1210	250	4.48	12.74	26.81	15.77	6.80	—	—	972.2	310.8	
1215	225	4.52	12.43	21.19	16.09	6.83	—	—	303.5	314.5	
1220	225	4.55	12.61	21.35	16.30	6.90	—	—	205	312.0	
1225	225	4.65	12.75	21.44	16.44	6.87	—	—	198.8	307.7	
1230	225	4.80	12.80	21.57	16.55	6.81	—	—	300.6	350.7	
1235	225	4.70	12.57	22.20	18.05	6.87	—	—	273.2	302.9	
1240	225	4.70	13.01	23.16	17.86	6.96	—	—	372.6	374.1	
1245	225	2ump	not working								
1255	225	4.77	12.35	24.70	18.97	6.97	—	—	1244.7	917.6	
1305	225	4.65	12.79	24.35	19.05	6.95	—	—	1143.4	920.8	
1305	200	4.75	12.46	25.17	19.15	6.89	—	—	995.9	920.7	
1310	200	4.75	12.46	25.45	19.35	6.89	—	—	945.0	923.2	
1315	200	4.80	12.82	26.42	20.27	7.00	—	—	772.1	923.4	
1320	200	4.85	13.18	26.07	20.16	7.01	—	—	710.1	924.9	

## SAMPLING

Date: 12/5/18 Time: 1340  
 Sample ID: AFDV-501 Method of Sample Collection: Grab/low flow  
 Analytical Parameters: CI-  
 Q.C. Sample Type: MS/MSD Duplicate Duplicate Sample ID: AFDV-502  
 NOTE: Designate if a Field Blank is taken.

Dup. Time: 1341

Trash picked up? yesWell locked? yesSIGNED/SAMPLER: Reg

Pg 1 of 2



# FIELD DATA SHEET - GROUNDWATER SAMPLING *December*

Well Number: *BW-16* Field Crew: *S. Grady/K. Ma* Purpose of Sampling: *Annual LTMP Groundwater Sampling*  
 Site: *2040 West River Drive, Davenport, Iowa* Field Conditions: *Sunny 35°F*

## WELL CONDITION

Well Pad	<u>Acceptable</u>	Not Acceptable	Explain:
Flushmount / Stickup	<u>Acceptable</u>	Not Acceptable	Explain:
Well Casing	<u>Acceptable</u>	Not Acceptable	Explain:
Locking Cap	<u>Acceptable</u>	Not Acceptable	Explain:

## PURGE METHOD

Date: *12/5/18* Time: *1200* Method: *Low-flow* Volume Calculations:  
 Total Well Depth (DTB) (ft) = *33.45* Pump Type: *Peristaltic* (DTB - DTW x Vol./ft. = Gals./well volume)  
 Depth to Water (DTW) (ft) = *4.44*  
 Water Column (ft) = *29.01*

Diameter	Vol./ft.
1"	0.04
1.25"	0.06
<u>2"</u>	<u>0.16</u>
4"	0.65

## OBSERVATIONS

Odor (circle one): None Low High HS Fuel Like Other:  
 Turbidity (circle one): None Low Medium High Heavy Silts  
 Comments: *PURPLE*

## FIELD PARAMETERS

Time	Flow Rate (ml/min)	DTW (ft)	Temp. (C)	Sp. Cond (ms/cmC)	Conductivity (ms/cm)	pH (SU)	DO (mg/L)	DO (%)	ORP (mV)	Turbidity (NTU)	Comments
<i>1325</i>	<i>200</i>	<i>4.89</i>	<i>13.38</i>	<i>26.17</i>	<i>20.35</i>	<i>7.03</i>	<i>—</i>	<i>—</i>	<i>662.1</i>	<i>924.9</i>	<i>PURPLE</i>
<i>1330</i>	<i>200</i>	<i>4.90</i>	<i>13.41</i>	<i>26.29</i>	<i>20.47</i>	<i>7.01</i>	<i>—</i>	<i>—</i>	<i>1289.1</i>	<i>927.1</i>	<i>↓</i>
<i>1335</i>	<i>200</i>	<i>4.91</i>	<i>13.34</i>	<i>26.30</i>	<i>20.45</i>	<i>7.00</i>	<i>—</i>	<i>—</i>	<i>1350.3</i>	<i>926.6</i>	
<i>1340</i>	<i>SAMPLE</i>										

## SAMPLING

Date: *12/5/18* Time: *1340*  
 Sample ID: *AFDV-501* Method of Sample Collection: *Grab/low flow*  
 Analytical Parameters: *chloride*  
 Q.C. Sample Type: MS/MSD Duplicate Sample ID: *AFDV-502* Dup. Time: *1341*  
 NOTE: Designate if a Field Blank is taken.  
 Trash picked up? *Y* Well locked? *Y*  
 SIGNED/SAMPLER: *[Signature]*

*Chloride: 0.5 mL : 200 mL = 39.7 mg/L*

*pg. 2 of 2*



# Institutional Controls Forms



## Institutional Controls Visual Inspection Form

Institutional controls have been implemented to limit the site to industrial use only, and an environmental covenant on the property is used to prevent groundwater use and exposure.

Harcros Chemicals Site  
2040 West River Drive  
Davenport, Iowa 5280

Date of Inspection: 6/15/18

Coordinate site access with the site contact listed below:

Harcros Facility Manager (or their designee)  
2040 West River Drive  
Davenport, Iowa 52802  
Office Phone: 563-322-3511

1) Describe current land use and current cover conditions (vegetation, pavement, etc.):

An active facility with buildings, pavement, gravel, and a little  
vegetation near the fence line. Conditions looks to be in  
good. No notable observations to report

2) Any changes in land use (agricultural, recreational, etc.)?

Yes\_\_ No ☒

i) If yes, describe change.

3) Note any land disturbances

a) Any building demolition?

Yes\_\_ No ☒

i) If yes, identify building.

b) Any building construction?

Yes\_\_ No ☒

i) If yes, identify building type (residential, commercial, industrial).

c) Any excavation performed?

Yes\_\_ No ☒

i) If yes, was the respondent's project coordinator notified?

Yes\_\_ No\_\_

ii) If yes, measure the dimensions, depict the approximate location on site map.

d) Any sign of waste materials exposed through excavation?

Yes\_\_ No ☒

i) If yes, describe exposed waste dimensions and type of material.

e) Was waste generated by the facility operations?

Yes\_\_ No ☒



- i) If yes, describe how waste was handled and if waste was removed from the site. Document disposal facility, if appropriate.

- f) Any sign of grading activity or elevation change Yes\_\_ No ☒

- i) If yes, identify type of activity (cut or fill).

- ii) Estimate depth of cut or height of fill.

- g) Any sign of drilling activity Yes ☒ No\_\_

- i) If yes, identify type of activity (soil boring, well, or other).

Soil borings, no visible signs of drilling location though.

- ii) If well, identify type (water supply well, monitoring well).

- iii) If new wells are identified, submit a request for information regarding the well to the site owner and/or operator.

- 4) Activity discovered that appears inconsistent with the IC objective or use restrictions, or other action that may interfere with the effectiveness of the ICs? Yes\_\_ No ☒

- i) If yes, identify activity or activities below and notify the Respondents Project Coordinator identified in the Administrative Order on Consent.

- 5) Pertinent records related to the site reviewed? Yes\_\_ No ☒

- i) If yes, identify the records that were reviewed.



Signature

CH2M / Jacobs

Affiliation



# Photographic Log



*Photo 001: Looking west on the site towards Area 5 injection wells ISCO-IW14 and ISCO-IW13.*



*Photo 002: Looking southwest behind the main warehouse, Area 3 injection tanks on the right.*





*Photo 003: Looking south from the north property line towards the main building across the site.*



*Photo 004: To the north of the main warehouse looking northwest across the site.*





*Photo 005: West of Building A looking south at Injection Areas 4, 6, and 8.*



*Photo 006: To the south of Building A looking north at the site at Injection Area 4.*



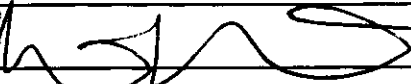
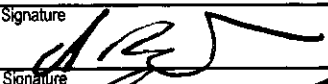
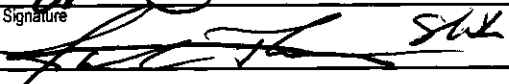
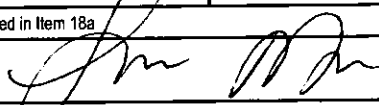


*Photo 007: Sign posted at the entrance gate to the site in accordance with the Institutional Controls Plan.*



# Waste Disposal Documentation



<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>IAD022100671</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800)483-3718</b>	4. Manifest Tracking Number <b>011169356 FLE</b>								
5. Generator's Name and Mailing Address <b>TH Agriculture &amp; Nutrition LLC 15313 West 95th street Lenexa, KS 66219</b>				Generator's Site Address (if different than mailing address) <b>2040 West River Drive Davenport, IA 52802</b>									
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>				U.S. EPA ID Number <b>MAD039322250</b>									
7. Transporter 2 Company Name <b>NEPER TAC</b>				U.S. EPA ID Number <b>THD 984868406</b>									
8. Designated Facility Name and Site Address <b>Spring Grove Resource Recovery Inc. 4879 Spring Grove Avenue Cincinnati, OH 45232</b>				U.S. EPA ID Number <b>OH D000816629</b>									
Facility's Phone: <b>(513)681-5738</b>													
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes					
				No.	Type								
				1. <b>NON HAZARDOUS, NON D.O.T. REGULATED, (DEBRIS)</b>					<b>2</b>	<b>Dm</b>	<b>600</b>	<b>P</b>	
				2. <b>NON HAZARDOUS, NON D.O.T. REGULATED, (DEBRIS)</b>									
				3.									
4.													
14. Special Handling Instructions and Additional Information <b>1. CH1586990</b> <b>2. CH1586990</b>													
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.													
Generator's/Offeror's Printed/Typed Name <b>on behalf of TH Agriculture &amp; Nutrition, LLC, CHM, its agent Crystal Ross</b> Signature  Month <b>4</b> Day <b>3</b> Year <b>18</b>													
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____													
17. Transporter Acknowledgment of Receipt of Materials													
Transporter 1 Printed/Typed Name <b>ALVIN TRUSTY</b> Signature  Month <b>4</b> Day <b>3</b> Year <b>18</b>													
Transporter 2 Printed/Typed Name <b>SEAN WHEELER</b> Signature  Month <b>4</b> Day <b>13</b> Year <b>18</b>													
18. Discrepancy													
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection													
Manifest Reference Number: _____ U.S. EPA ID Number _____													
18b. Alternate Facility (or Generator) _____ U.S. EPA ID Number _____													
Facility's Phone: _____													
18c. Signature of Alternate Facility (or Generator) _____ Month _____ Day _____ Year _____													
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)													
1. <b>H141</b>		2. <b>-H141</b>		3. _____		4. _____							
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a													
Printed/Typed Name <b>Calgesha Mason</b> Signature  Month <b>4</b> Day <b>13</b> Year <b>18</b>													



H141 H141

1 CH1286990  
2 CH1286990

NON HAZARDOUS, NON D.O.T. REGULATED (DEBRIS)  
NON HAZARDOUS, NON D.O.T. REGULATED (DEBRIS)

(613) 681-6738  
Cincinnati, OH 45232  
4879 Spring Grove Avenue  
Spring Grove Resource Recovery Inc.

Clean Harbors Environmental Services, Inc.

WAD03635520

CHD000816639

General MS 66219  
15313 West 95th Street  
TH Agriculture & Nutrition LLC

Davenport IA 52802  
5040 West River Drive

1 AD002100617 1 (800) 483 3178

(613) 681-6738

2044W 1011005015



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number <b>1AD022100071</b>		2. Page 1 of <b>1</b>		3. Emergency Response Phone <b>(800) 483-3718</b>		4. Manifest Tracking Number <b>011918532 FLE</b>		
5. Generator's Name and Mailing Address <b>TH Agriculture &amp; Nutrition LLC</b> <b>15313 West 95th street</b> <b>Laneza, KS 66215</b> Generator's Phone: <b>(913) 538-2349</b> <b>ATTN: Anna Kunial</b>										
Generator's Site Address (if different than mailing address) <b>2040 West River Drive</b> <b>Davenport, IA 52802</b>										
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>								U.S. EPA ID Number <b>MAD039322250</b>		
7. Transporter 2 Company Name <b>Pioneer Tank Lines</b>								U.S. EPA ID Number <b>MND044176113</b>		
8. Designated Facility Name and Site Address <b>Clean Harbors Environmental Services, Inc.</b> <b>2247 South Highway 71</b> <b>Kimball, NE 69145</b> Facility's Phone: <b>(308) 235-4012</b>								U.S. EPA ID Number <b>NED981723513</b>		
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes			
			No.	Type						
	<b>X</b>	<b>HQ, NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (TRICHLOROETHENE, TETRACHLOROETHENE), 9, PG III (D029, D039, D040, D043)</b>	<b>001</b>	<b>DM</b>	<b>300</b>	<b>P</b>		<b>D029</b>	<b>D039</b>	<b>D040</b>
								<b>D043</b>		
14. Special Handling Instructions and Additional Information <b>1. CH606545    ERG#171    1KSC</b>										
<p><del>Contract retained by generator confers agency authority on initial transporter to add or delete additional transporters on generator's behalf</del></p> <p>15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.</p> <p>I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.</p>										
Generator's/Offeror's Printed/Typed Name <b>on behalf of TH Agriculture &amp; Nutrition LLC</b> Signature <i>[Signature]</i> Month <b>9</b> Day <b>14</b> Year <b>18</b> <b>Jack Graham / CH2M</b>										
TRANSPORTER	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.    Port of entry/exit: _____ Date leaving U.S.: _____									
	17. Transporter Acknowledgment of Receipt of Materials									
	Transporter 1 Printed/Typed Name <b>Jeremy James</b>					Signature <i>[Signature]</i>		Month <b>9</b> Day <b>14</b> Year <b>18</b>		
	Transporter 2 Printed/Typed Name <b>Tony Corral</b>					Signature <i>[Signature]</i>		Month <b>9</b> Day <b>19</b> Year <b>18</b>		
DESIGNATED FACILITY	18. Discrepancy									
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
	18b. Alternate Facility (or Generator)    Manifest Reference Number: _____    U.S. EPA ID Number: _____									
	Facility's Phone: _____									
	18c. Signature of Alternate Facility (or Generator)    Month _____ Day _____ Year _____									
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)										
1. <b>H040</b>		2. _____		3. _____		4. _____				
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a										
Printed/Typed Name <b>Jessica Egoli</b>					Signature <i>[Signature]</i>		Month <b>9</b> Day <b>29</b> Year <b>18</b>			





Land Disposal Restriction  
Notification Form

Page : 1 of 1

Printed Date : Sep 10, 2018

MANIFEST INFORMATION

Generator : TH Agriculture & Nutrition LLC

Address: 2040 West River Drive  
Davenport, IA 52802

Manifest Tracking Info.

011918532FLE

EPA ID #: IAD022100671

Sales Order No: 1804633520

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH606545	WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code

D029D039D040D043

EPA Waste SubCategory

NONE

Certification

Applies to  
Manifest Line  
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached.

Signature :

Print Name

Title :

Date :

Jack Graham On behalf of  
TH Agriculture & Nutrition LLC  
9/19/18



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>IAD022100671</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800)483-8718</b>	4. Manifest Tracking Number <b>011926990 FLE</b>		
5. Generator's Name and Mailing Address <b>TH Agriculture &amp; Nutrition LLC</b> <b>15213 West 90th street</b> <b>Lenexa, KS 66219</b>				Generator's Site Address (if different than mailing address) <b>2040 West River Drive</b> <b>Davenport, IA 52802</b>			
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>				U.S. EPA ID Number <b>MAD039322250</b>			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address <b>Spring Grove Resource Recovery Inc.</b> <b>4579 Spring Grove Avenue</b> <b>Cincinnati, OH 45232</b>				U.S. EPA ID Number <b>OHD000816629</b>			
Facility's Phone: <b>(513) 681-5738</b>							
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
			No.	Type			
	X	1. <b>HA3077, HAZARDOUS WASTE, SOLID, N.O.S., (TRICHLOROETHENE, TETRACHLOROETHENE), 9, PG III</b>	1	DM	200	P	D029 D039 D040 D043
		2. <b>NON HAZARDOUS, NON D.O.T. REGULATED, (DEBRIS)</b>	2	FF	4000	P	
		3. <b>NON-REGULATED SOLID, (SOIL)</b>	1	DM	400	P	
		4. <b>NON HAZARDOUS, NON D.O.T. REGULATED, (DEBRIS)</b>	1	DM	400	P	
14. Special Handling Instructions and Additional Information 1. <b>CH15453</b> <b>200171 PPE haz</b> 2. <b>CH1586990</b> <b>rock core boxes</b> 3. <b>CH606710</b> <b>NA Soil</b> 4. <b>CH1586990</b> <b>rock cores, drum</b>							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offor's Printed/Typed Name <b>Shawn Bida / CH2A</b> on behalf of <b>TH Agriculture &amp; Nutrition, LLC</b> Signature _____ Month _____ Day _____ Year <b>10 15 18</b>							
INTL	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
	Transporter signature (for exports only): _____						
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials						
	Transporter 1 Printed/Typed Name <b>Ryan McPherron</b> Signature _____ Month _____ Day _____ Year <b>6 15 18</b>				Transporter 2 Printed/Typed Name _____ Signature _____ Month _____ Day _____ Year _____		
DESIGNATED FACILITY	18. Discrepancy						
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
	Manifest Reference Number: _____						
	18b. Alternate Facility (or Generator) _____ U.S. EPA ID Number _____						
	Facility's Phone: _____						
	18c. Signature of Alternate Facility (or Generator) _____ Month _____ Day _____ Year _____						
	19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
	1. <b>H141</b>	2. <b>H141</b>	3. <b>H141</b>	4. <b>H141</b>			
	20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
	Printed/Typed Name <b>Brandy Proffitt</b> Signature _____ Month _____ Day _____ Year <b>8 7 18</b>						





Land Disposal Restriction  
Notification Form

Page : 1 of 1

Printed Date : Jun 13, 2018

MANIFEST INFORMATION

Generator : TH Agriculture & Nutrition LLC

Address: 2040 West River Drive  
Davenport, IA 52802

Manifest Tracking Info.

011926990FLE

EPA ID #: IAD022100671

Sales Order No: 1802767223

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH815653	NON-WASTEWATER	3 (Alternate Debris Standard)

EPA Waste Code

D029D039D040D043

EPA Waste SubCategory

NONE

LDR Chemical Data

Chemical	Underlying Hazardous Constituents	Constituents of Concern	Contaminants Subject to Treatment
1,1-DICHLOROETHYLENE	Y	N	Y
TETRACHLOROETHYLENE	Y	N	Y
TRICHLOROETHYLENE	Y	N	Y
VINYL CHLORIDE	Y	N	Y

Certification

Applies to  
Manifest Line  
Items

This hazardous debris is subject to the Alternate Treatment Standards of 40 CFR 268.45.

1.

This waste is not restricted as specified in 40 CFR 268 Subpart D.

2. 3. 4.

Waste analysis data, where available, is attached.

Signature :

Print Name

Steven B. Galt / CH2M on behalf of  
TH Agriculture & Nutrition, LLC

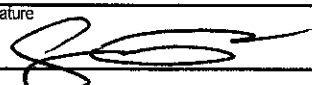


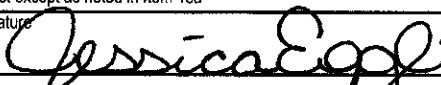
Title :

Geologist

Date :



V18063312

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>IAD022100671</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800)483-3718</b>	4. Manifest Tracking Number <b>011926991 FLE</b>		
5. Generator's Name and Mailing Address <b>TH Agriculture &amp; Nutrition LLC</b> <b>15313 West 98th street</b> <b>Lenexa, KS 66219</b>				Generator's Site Address (if different than mailing address) <b>2040 West River Drive</b> <b>Davenport, IA 52802</b>			
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>				U.S. EPA ID Number <b>MAD039322250</b>			
7. Transporter 2 Company Name <b>Pioneer Tank Lines</b>				U.S. EPA ID Number <b>MND044176113</b>			
8. Designated Facility Name and Site Address <b>Clean Harbors Environmental Services, Inc.</b> <b>2247 South Highway 71</b> <b>Kimball, NE 68145</b>				U.S. EPA ID Number <b>NED981723513</b>			
Facility's Phone: <b>(308) 235-4012</b>							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
x	1. <b>HA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (TRICHLOROETHENE, TETRACHLOROETHENE), 9, PG III</b>	02	DM	<del>800</del> 700	P	<b>D029 D039 D040</b> <b>D043</b>	
	2.						
	3.						
	4.						
14. Special Handling Instructions and Additional Information <b>1. CH606545 EPC171 - Here water drums</b>							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offor's Printed/Typed Name <b>Steven Bigda/CH2M on behalf of TH Agriculture &amp; Nutrition, LLC</b>				Signature 		Month Day Year <b>16 15 18</b>	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.				Port of entry/exit: Date leaving U.S.:			
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <b>Ryan McPherran</b>				Signature 		Month Day Year <b>16 15 18</b>	
Transporter 2 Printed/Typed Name <b>WADE WOODS</b>				Signature 		Month Day Year <b>16 26 18</b>	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number:							
18b. Alternate Facility (or Generator) U.S. EPA ID Number							
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator) Month Day Year							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. <b>H040</b>		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name <b>Jessica Egoli</b>				Signature 		Month Day Year <b>16 27 18</b>	





Land Disposal Restriction  
Notification Form

Page : 1 of 1

Printed Date : Jun 13, 2018

MANIFEST INFORMATION

Generator : TH Agriculture & Nutrition LLC

Address: 2040 West River Drive  
Davenport, IA 52802

EPA ID #: IAD022100671

Manifest Tracking Info.

011926991FLE

Sales Order No: 1802767223

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH606545	WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code

D029D039D040D043

EPA Waste SubCategory

NONE

Certification

Applies to  
Manifest Line  
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached.

Signature :

Print Name

Steven B. Gida / CH2M on behalf of  
TH Agriculture & Nutrition, LLC

Title :

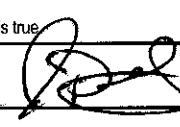
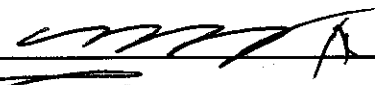
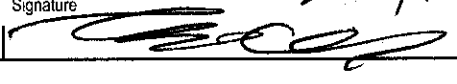
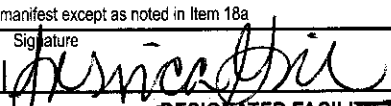
Geologist

Date :

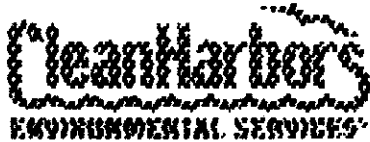
6/15/18



V18072908

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>IA022100671</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>011927252 FLE</b>		
5. Generator's Name and Mailing Address <b>TH Agriculture &amp; Nutrition LLC ATTN: ANNA KUNDEL</b> <b>15313 West 95th street</b> <b>Lewiston, KS 66219</b> Generator's Phone: <b>913-538-2349</b>				Generator's Site Address (if different than mailing address) <b>2040 West River Drive</b> <b>Davenport, IA 52802</b>			
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>				U.S. EPA ID Number <b>MAD039922250</b>			
7. Transporter 2 Company Name <b>Pioneer Tank Lines</b>				U.S. EPA ID Number <b>MND044176113</b>			
8. Designated Facility Name and Site Address <b>Clean Harbors Environmental Services, Inc.</b> <b>2247 South Highway 71</b> <b>Winchester, NE 68014</b> Facility's Phone: <b>(800) 295-4012</b>				U.S. EPA ID Number <b>NED981723513</b>			
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
	1. <b>HA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (TRICHLOROETHENE, TETRACHLOROETHENE), 9, PG III</b>	<b>1</b>	<b>DM</b>	<b>150</b>	<b>P</b>	<b>D029 D030 D040 D043</b>	
	2.						
	3.						
4.							
14. Special Handling Instructions and Additional Information <b>1. CH006545</b> <b>2. H00171</b>							
I certify that the waste is properly classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Officer's Printed/Typed Name <b>Jack Graham / CH2M as agent for Schlumberger Technology Corporation</b>				Signature 		Month Day Year <b>07 17 18</b>	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <b>Cody Truitt</b>				Signature 		Month Day Year <b>07 17 18</b>	
Transporter 2 Printed/Typed Name <b>Tom Abney</b>				Signature 		Month Day Year <b>7/25/18</b>	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number:							
18b. Alternate Facility (or Generator) U.S. EPA ID Number							
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator) Month Day Year							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. <b>H040</b>		2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name <b>Jessica Gibson</b>				Signature 		Month Day Year <b>07/26/18</b>	





Land Disposal Restriction  
Notification Form

Page : 1 of 1

Printed Date : Jul 17, 2018

MANIFEST INFORMATION

Generator : TH Agriculture & Nutrition LLC

Address: 2040 West River Drive  
Davenport, IA 52802

EPA ID #: IAD022100671

Manifest Tracking Info.

011927252FLE

Sales Order No: 1803532236

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH006545	WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code

D029D039D040D043

EPA Waste SubCategory

NONE

Certification

Applies to  
Manifest Line  
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached.

Signature :

Print Name

Title :

Date :

Jack Graham/CH2M as agent for  
Schlumberger Technology Corporation  
7/17/18



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>IA0022100671</b>	2. Page 1 of <b>12</b>	3. Emergency Response Phone <b>(800)483-3718</b>	4. Manifest Tracking Number <b>011926992 FLE</b>
5. Generator Name and Mailing Address <b>TH Agriculture &amp; Nutrition LLC 15313 West 98th street Lenexa, KS 66219</b>			Generator's Site Address (if different than mailing address) <b>2040 West River Drive Davenport, IA 52802</b>		
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>			U.S. EPA ID Number <b>MAD039322250</b>		
7. Transporter 2 Company Name <i>Miller</i>			U.S. EPA ID Number <b>IND1984868906</b>		
8. Designated Facility Name and Site Address <b>Clean Harbors Environmental Services, Inc. 2900 Rockefeller Avenue Cleveland, OH 44115</b>			U.S. EPA ID Number <b>OHD000724153</b>		
Facility's Phone: <b>(216) 429-2402</b>					
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1.	<b>NON HAZARDOUS, NON D.O.T. REGULATED, (MONITORING WELL WATER)</b>	<b>1</b>	<b>DM</b>	<b>400</b>	<b>P</b>
2.					
3.					
4.					
14. Special Handling Instructions and Additional Information <b>1. CH1322429 - NH water</b>					
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.					
Generator's/Officer's Printed/Typed Name <b>Steven Baga/CH2M</b> on behalf of <b>TH Agriculture &amp; Nutrition, LLC</b>					
Signature <i>[Signature]</i>					Month Day Year <b>06/15/18</b>
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____					
17. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name <b>Ryan McPherron</b>			Signature <i>[Signature]</i>		Month Day Year <b>16/13/18</b>
Transporter 2 Printed/Typed Name <b>Jerry</b>			Signature <i>[Signature]</i>		Month Day Year <b>16/29/18</b>
18. Discrepancy					
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
18b. Alternate Facility (or Generator) Manifest Reference Number: _____ U.S. EPA ID Number _____					
Facility's Phone: _____					
18c. Signature of Alternate Facility (or Generator) _____ Month Day Year _____					
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)					
1. <b>H070</b>	2.	3.	4.		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a					
Printed/Typed Name <b>Jessica Jacobs</b>			Signature <i>[Signature]</i>		Month Day Year <b>17/13/18</b>



DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)



Site Address : 2040 West River Drive  
Davenport, IA 52802

SC PPW 7/12/2018

WORK ORDER NO 1804633520

1134153

DOCUMENT NO.

STRAIGHT BILL OF LADING

TRANSPORTER 1 Clean Harbors Environmental Services, Inc. VEHICLE ID # \_\_\_\_\_

EPA ID # MAD039322250 TRANS. 1 PHONE (781) 792-5000

TRANSPORTER 2 Neveer Inc VEHICLE ID # \_\_\_\_\_

EPA ID # Ind 984868 406 TRANS. 2 PHONE 319 224 340

DESIGNATED FACILITY Clean Harbors Environmental Services, Inc.			SHIPPER ATTN: Anna Kunkel TH Agriculture & Nutrition LLC		
FACILITY EPA ID # OHD000724153			SHIPPER EPA ID # IAD022100671		
ADDRESS 2900 Rockefeller Avenue			ADDRESS 15313 West 95th street		
CITY Cleveland		STATE OH	ZIP 44115	CITY Lenexa	STATE KS
CONTAINERS NO. & SIZE		TYPE	HM	DESCRIPTION OF MATERIALS	
01X55		DM		A. NON HAZARDOUS, NON D.O.T. REGULATED, (MONITORING WELL WATER)	
				B.	
				C.	
				D.	
				E.	
				F.	
				G.	
				H.	
SPECIAL HANDLING INSTRUCTIONS A.CH1322429					
EMERGENCY PHONE #: (800) 483-3718					
GENERATOR: TH Agriculture & Nutrition LLC					

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER <u>Jack Graham</u> PRINT <u>on behalf of TH.</u>	SIGN <u>[Signature]</u>	DATE <u>9/14/18</u>
TRANSPORTER 1 <u>Jeremy James</u> PRINT	SIGN <u>[Signature]</u>	DATE <u>9/14/18</u>
TRANSPORTER 2 <u>Steve Eubank</u> PRINT	SIGN <u>[Signature]</u>	DATE <u>9-18-18</u>
RECEIVED BY <u>Jessica Jacobs</u> PRINT	SIGN <u>[Signature]</u>	DATE <u>10-2-18</u>



Straight BOL/HH Continuation Form

Manifest Tracking Number: 1134153 Page: 2/2  
Generator's Name: TH AGRICULTURE & NUTRITION LLC  
Generator ID Number: IA D 022100671

Transporter # 3

Transporter Name: NEIER

U.S. EPA ID#: IND984868406

Print: Jerry Gates Sign: Jerry Gates Date: 9/24/18

Transporter # 4

Transporter Name: Clean Harbors Env Services Inc

U.S. EPA ID#: MD039322250

Print: Charity Bonaparte Sign: S Bfe Date: 9/25/18

Transporter # \_\_\_\_\_

Transporter Name: \_\_\_\_\_

U.S. EPA ID#: \_\_\_\_\_

Print: \_\_\_\_\_ Sign: \_\_\_\_\_ Date: \_\_\_\_\_



Site Address : 2040 West River Drive  
Davenport, IA 52802

SC PPW 7/12/2018

WORK ORDER ~~NO~~ 1804633520

1134154

DOCUMENT NO.

STRAIGHT BILL OF LADING

TRANSPORTER 1 Clean Harbors Environmental Services, Inc. VEHICLE ID # \_\_\_\_\_



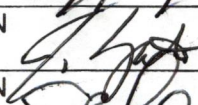

EPA ID # MAD039322250 TRANS. 1 PHONE (781) 792-5000

TRANSPORTER 2 Neira Inc VEHICLE ID # \_\_\_\_\_

EPA ID # Ind 984865406 TRANS. 2 PHONE 312 202 4340

DESIGNATED FACILITY Spring Grove Resource Recovery Inc.			SHIPPER TH Agriculture & Nutrition LLC		
FACILITY EPA ID # OHD000816629			SHIPPER EPA ID # IAD022100671		
ADDRESS 4879 Spring Grove Avenue			ADDRESS 15313 West 95th street		
CITY Cincinnati		STATE OH	ZIP 45232	CITY Lenexa	STATE KS
CONTAINERS NO. & SIZE		TYPE	HM	DESCRIPTION OF MATERIALS	
01X55		DM		A. NON HAZARDOUS, NON D.O.T. REGULATED, (SOIL)	
				B.	
				C.	
				D.	
				E.	
				F.	
				G.	
				H.	
TOTAL QUANTITY 400					
UNIT P					
SPECIAL HANDLING INSTRUCTIONS A.CH1706498					
EMERGENCY PHONE #: (800) 483-3718					
GENERATOR: TH Agriculture & Nutrition LLC					

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER	PRINT on behalf of TH Agriculture & Nutrition, LLC Jack Graham	SIGN 	DATE 9/14/18
TRANSPORTER 1	PRINT Jeremy James	SIGN 	DATE 9/14/18
TRANSPORTER 2	PRINT Tracy Yates	SIGN 	DATE 9/24/18
RECEIVED BY	PRINT Chanty Bongafel	SIGN 	DATE 9/25/18



Please print or type.

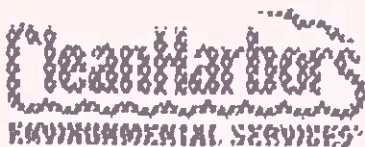
70 1805857801

SC PPW 7/12/2018

Form Approved. OMB No. 2050-0039

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <b>1AD022100671</b>	2. Page 1 of <b>1</b>	3. Emergency Response Phone <b>(800) 483-3718</b>	4. Manifest Tracking Number <b>012873274 FLE</b>
5. Generator's Name and Mailing Address <b>TH Agriculture &amp; Nutrition LLC</b> <b>15313 West 95th street</b> <b>Lenexa, KS 66219</b> Generator's Phone: <b>(913) 838-2349</b> <b>ATTN: Anna Kunkel</b>					
Generator's Site Address (if different than mailing address) <b>2040 West River Drive</b> <b>Davenport, IA 52802</b>					
6. Transporter 1 Company Name <b>Clean Harbors Environmental Services, Inc.</b>				U.S. EPA ID Number <b>MAD039322250</b>	
7. Transporter 2 Company Name				U.S. EPA ID Number	
8. Designated Facility Name and Site Address <b>Clean Harbors Environmental Services, Inc.</b> <b>2247 South Highway 71</b> <b>Kimball, NE 69145</b> Facility's Phone: <b>(308) 235-4012</b>				U.S. EPA ID Number <b>NED981723513</b>	
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity
			No.	Type	12. Unit WL/Vol.
	<b>x</b>	<b>1. HAZARDOUS WASTE, LIQUID, N.O.S., (TRICHLOROETHENE, TETRACHLOROETHENE), 9, PG III</b>	<b>001</b>	<b>DF</b>	<b>030 P</b>
13. Waste Codes					
					<b>D029 D039 D040 D043</b>
14. Special Handling Instructions and Additional Information <b>1. CHS06545</b>					
Contract retained by generator confers agency authority on initial transporter to add or substitute additional transporters on generator's behalf					
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.					
Generator's/Offor's Printed/Typed Name <b>Donna Kunkel / CHS06545 of TH Agriculture &amp; Nutrition LLC</b>					
Signature <i>[Signature]</i> Month <b>12</b> Day <b>08</b> Year <b>18</b>					
TRANSPORTER INT'L	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.    Port of entry/exit: _____ Date leaving U.S.: _____				
	17. Transporter Acknowledgment of Receipt of Materials				
	Transporter 1 Printed/Typed Name <b>Jeremy James</b> Signature <i>[Signature]</i> Month <b>12</b> Day <b>08</b> Year <b>18</b>				
	Transporter 2 Printed/Typed Name _____ Signature _____    Month _____ Day _____ Year _____				
DESIGNATED FACILITY	18. Discrepancy				
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection				
	18b. Alternate Facility (or Generator)    Manifest Reference Number: _____ U.S. EPA ID Number _____				
	Facility's Phone: _____				
	18c. Signature of Alternate Facility (or Generator)    Month _____ Day _____ Year _____				
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)					
1. <b>H040</b>		2. _____		3. _____	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a					
Printed/Typed Name _____ Signature _____    Month _____ Day _____ Year _____					





Land Disposal Restriction  
Notification Form

Page : 1 of 1

Printed Date : Dec 05, 2018

MANIFEST INFORMATION

Generator : TH Agriculture & Nutrition LLC

Address: 2040 West River Drive  
Davenport, IA 52802

Manifest Tracking Info.

012873274FLE

EPA ID #: IAD022100671

Sales Order No: 1805857301

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH606545	WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code

D028D039D040D043

EPA Waste SubCategory

NONE

Certification

Applies to  
Manifest Line  
Items

Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.

1.

Waste analysis data, where available, is attached.

Signature :

*[Handwritten Signature]*  
Ecology +

Print Name

*Jack Graham/CHPM on behalf of  
TH Agriculture & Nutrition LLC  
12/5/18*

Title :

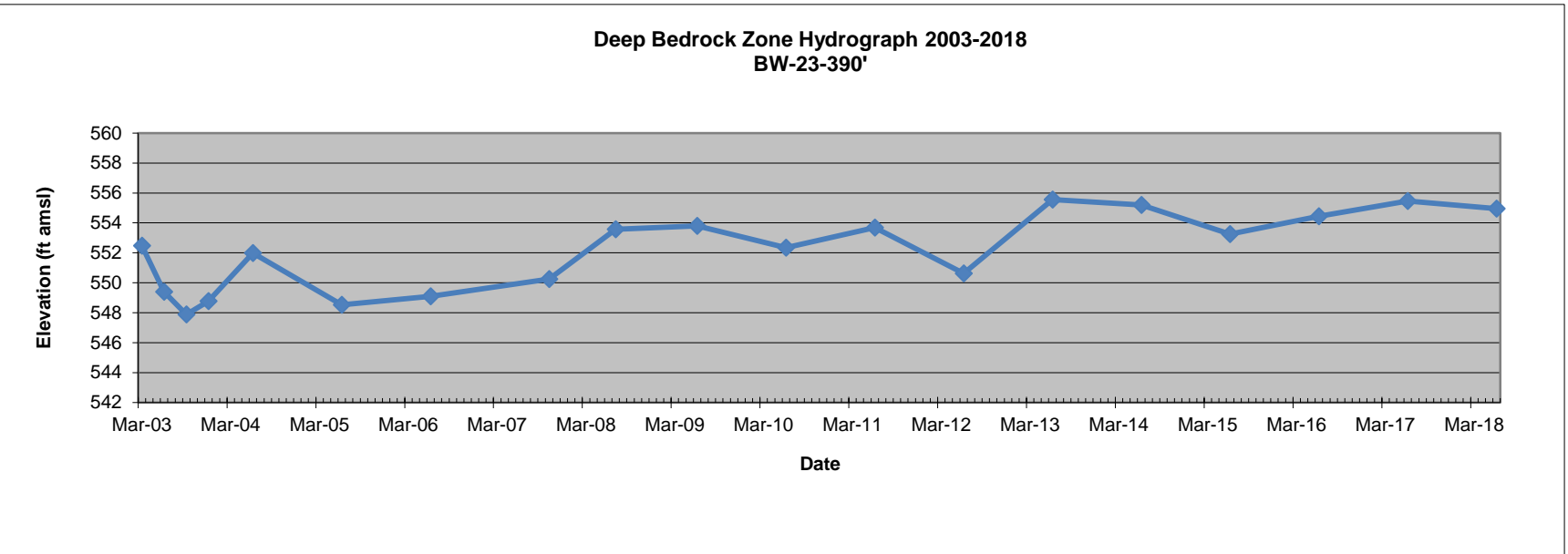
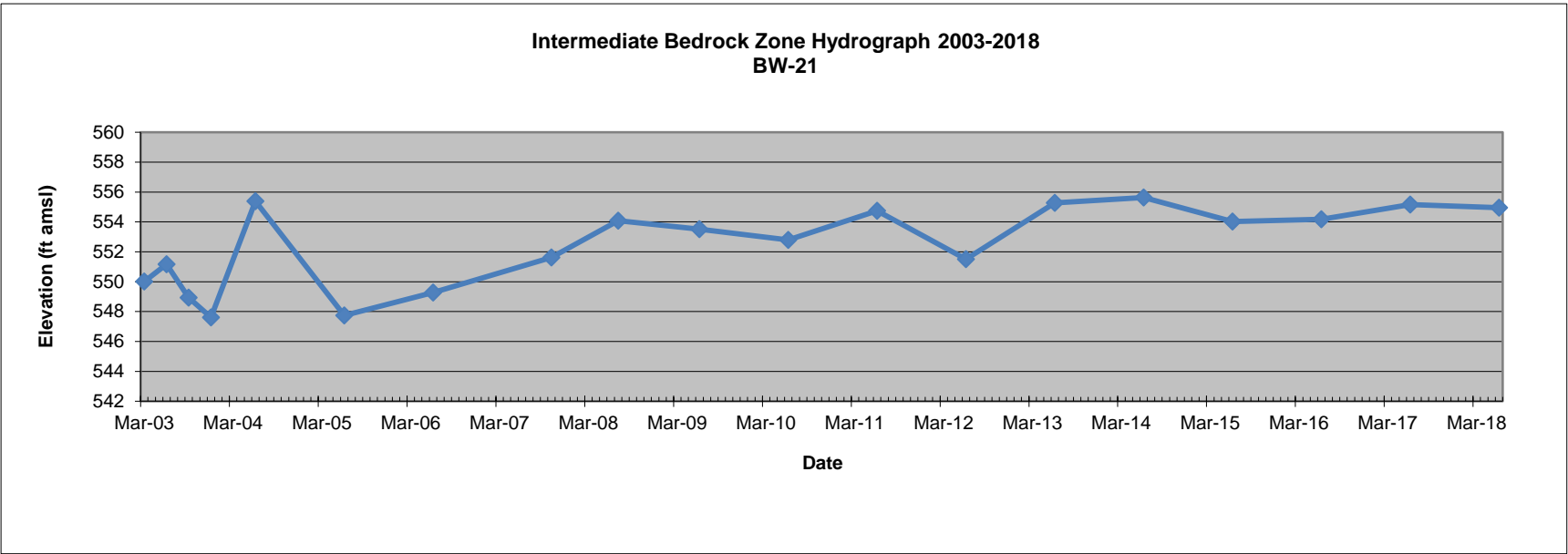
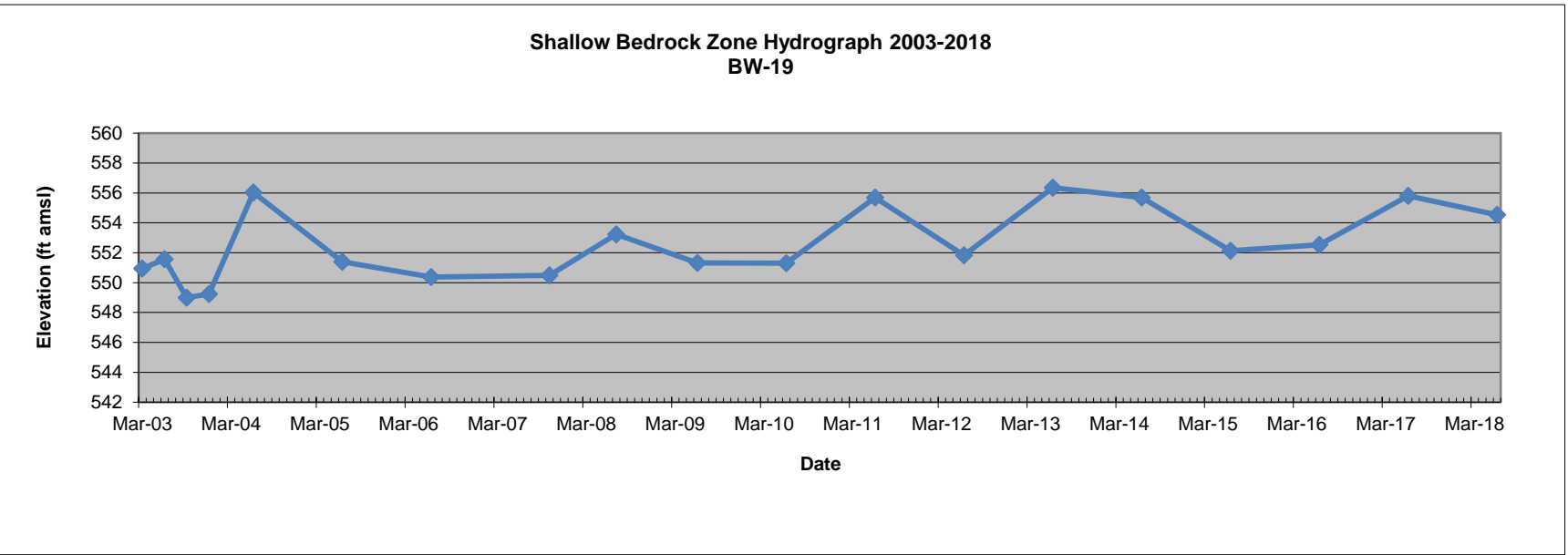
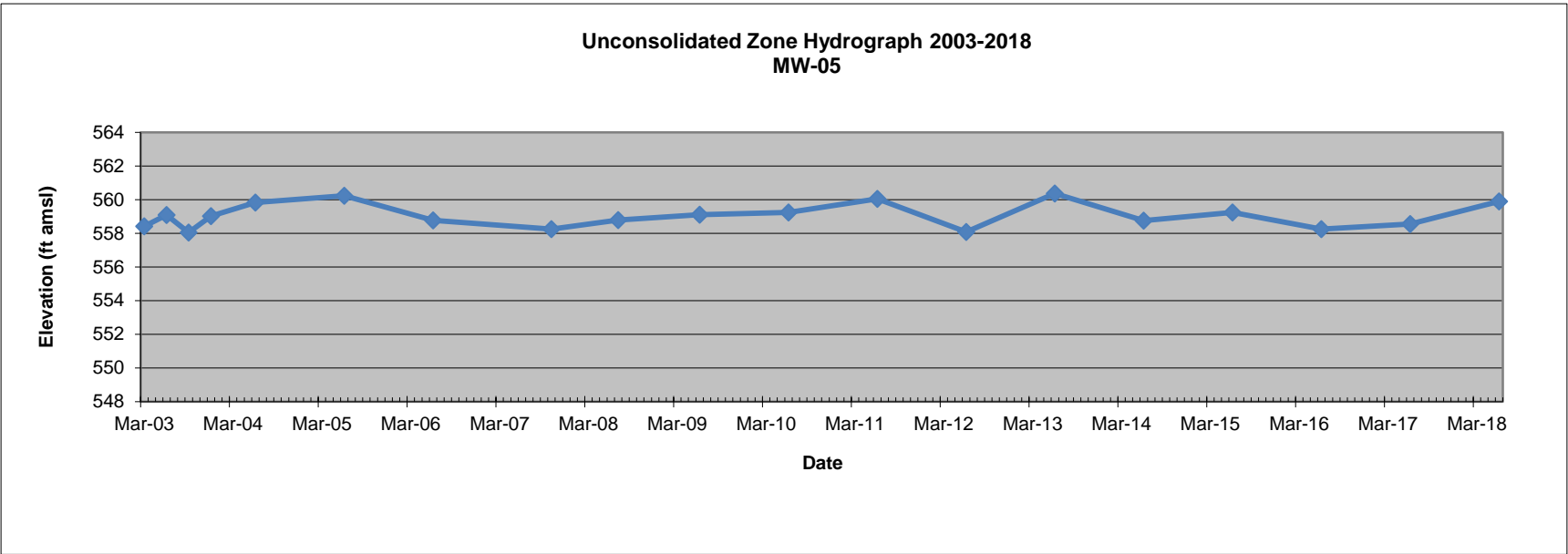
Date :



## Appendix B

### Hydraulic Data







**Table B-1. June 2018 Horizontal Gradient and Velocity Summary**

THAN Davenport Site, 2040 West River Drive

Monitoring Wells Nearest to Flow Lines Perpendicular to GW Elev. Contour Lines (highest elevation/lowest elevation)		Monitoring Zone	Highest Groundwater Elevation (ft amsl)	Lowest Groundwater Elevation (ft amsl)	Distance Between Wells (ft)	Horizontal Gradient (ft/ft)	Hydraulic Conductivity (cm/sec)	Porosity	Linear Groundwater Velocity (ft/year)
MW-08/MW-17	Unconsolidated		567.2	556.1	900	0.0123	2.70E-06	0.38	0.09
MW-08/MW-05	Unconsolidated		567.2	559.9	475	0.0153	2.70E-06	0.38	0.11
MW-03/MW-01 (near to)	Unconsolidated		565.9	559.4	440	0.0148	2.70E-06	0.38	0.11
MW-08/MW-17	Unconsolidated		567.2	556.1	900	0.0123	2.60E-08	0.38	0.001
MW-08/MW-05	Unconsolidated		567.2	559.9	450	0.0162	2.60E-08	0.38	0.001
MW-03/MW-01 (near to)	Unconsolidated		565.9	559.4	440	0.0148	2.60E-08	0.38	0.001
BW-05/BW-11	Shallow Bedrock Zone		566.2	556.5	825	0.0118	3.40E-06	0.2	0.21
BW-33/BW-03R (near to)	Shallow Bedrock Zone		566.3	559.7	450	0.015	3.40E-06	0.2	0.26
BW-16/BW-01	Shallow Bedrock Zone		566.9	559.4	440	0.0172	3.40E-06	0.2	0.30
BW-05/BW-11	Shallow Bedrock Zone		566.2	556.5	825	0.0118	4.70E-04	0.2	28.74
BW-33/BW-03R (near to)	Shallow Bedrock Zone		566.3	559.7	500	0.0131	4.70E-04	0.2	31.86
BW-16/BW-01	Shallow Bedrock Zone		566.9	559.4	440	0.017	4.70E-04	0.2	41.84
BW-23-200'/BW-26-205'	Intermediate Bedrock Zone		NA	NA	NA	NA	3.40E-06	0.15	NA
BW-24-390'/BW-23-390'	Deep Bedrock Zone		NA	NA	NA	NA	3.40E-06	0.15	NA

**Notes:**

All elevations in feet above mean sea level.

Estimates of hydraulic conductivity for unconsolidated material are derived from laboratory testing and represent vertical flow conditions based on laboratory methodology. The hydraulic conductivities for the unconsolidated zone were applied to estimates of horizontal groundwater gradients to estimate horizontal groundwater velocities within this unit.

NA = not applicable. The 2018 groundwater elevations in the intermediate zone (~200 feet deep) and deep zone (~400 feet deep) wells differ by very small ranges (0.07 feet and 0.19 feet, respectively)—these ranges are within measurement error for the FLUTE™ system, and that likely negates the accuracy of a calculated flow velocity.

cm = centimeter

ft = foot

ft amsl = feet above mean sea level

sec = second

$V = ki/n$

v=average linear groundwater velocity

k = hydraulic conductivity; Unconsolidated Zone—laboratory results from the Final 2003 Site Investigation report appendix D max K and Min K selected, Shallow Bedrock Zone-range from pumping test is  $3.4 \times 10^{-6}$  to  $4.7 \times 10^{-4}$  cm/sec, Intermediate and Deep Bedrock Zones—lower value from shallow pump test range was  $3.4 \times 10^{-6}$  cm/sec.

i = groundwater gradient (ft/ft) from June 2015 groundwater elevation map

n = porosity; Unconsolidated-38 percent, which is an average of the laboratory results from the Final 2003 Site Investigation Report, Shallow Bedrock Zone—assumed 20 percent as a mid-range for fractured limestone (from Fetter [2004]), Intermediate and Deep Bedrock Zones—assumed 15 percent for the Intermediate and Deep Bedrock Zones (from Fetter, C.W. 2004. *Applied Hydrogeology, Fourth Edition* . Merrill Publishing Company).



**Table B-2. June 2018 Vertical Gradient Summary**

THAN Davenport Site, 2040 West River Drive

Well Pair	Upper Monitoring Zone/Lower Monitoring Zone	Screen Midpoint Elevation Upper Zone Well (ft amsl)	Screen Midpoint Elevation Lower Zone Well (ft amsl)	Groundwater Elevation (ft amsl) June 2018 Upper Zone Well	Groundwater Elevation (ft amsl) June 2018 Lower Zone Well	Vertical Gradient (ft/ft) June 2018
<b>Onsite</b>						
MW-05/BW-03 (BW-03R)	Unconsolidated Zone/Shallow Bedrock Zone	558.90	542.50	559.90	559.72	0.0110
BW-03 (BW-03R) /BW-23-50'	Shallow Bedrock Zone/Shallow Bedrock Zone	542.50	507.86	559.72	557.59	0.0615
BW-23-50'/BW-23-90'	Shallow Bedrock Zone/Intermediate Bedrock Zone	507.86	467.86	557.29	555.03	0.0565
BW-23-90'/BW-23-125'	Intermediate Bedrock Zone/Intermediate Bedrock Zone	467.86	432.86	555.03	555.08	-0.0014
BW-23-125'/BW-23-200'	Intermediate Bedrock Zone/Intermediate Bedrock Zone	432.86	357.86	555.08	555.08	0.0000
BW-23-200'/BW-23-290'	Intermediate Bedrock Zone/Deep Bedrock Zone	357.86	267.86	555.08	555.06	0.0002
BW-23-290'/BW-23-390'	Deep Bedrock Zone/Deep Bedrock Zone	267.86	167.86	555.06	554.95	0.0011
<b>Offsite</b>						
MW-01/BW-01	Unconsolidated Zone/Shallow Bedrock Zone	559.60	541.60	559.41	559.37	0.0022
BW-25/BW-26-65'	Shallow Bedrock Zone/Intermediate Bedrock Zone	531.08	494.81	554.49	554.96	-0.0130
BW-26-65'/BW-26-85'	Intermediate Bedrock Zone/Intermediate Bedrock Zone	494.81	474.81	554.96	554.83	0.0065
BW-26-85'/BW-26-205'	Intermediate Bedrock Zone/Intermediate Bedrock Zone	474.81	354.81	554.83	555.01	-0.0015
BW-26-205'/BW-26-295'	Intermediate Bedrock Zone/Deep Bedrock Zone	354.81	264.81	555.01	554.92	0.0010
BW-26-295'/BW-26-395'	Deep Bedrock Zone/Deep Bedrock Zone	264.81	164.81	554.92	554.88	0.0004

Notes:

Negative values for vertical gradients indicate upward movement. Positive values indicate downward movement.

All elevations in feet above mean sea level.

If the groundwater elevation is lower than the screen midpoint interval for the unconsolidated zone monitoring wells, then the groundwater elevation is used in place of the screen midpoint for the distance calculation.

ft = foot

ft amsl = feet above mean sea level



Table B-3. June 2018 Vertical Seepage Summary

THAN Davenport Site, 2040 West River Drive

Monitoring Wells (highest elevation/lowest elevation)	Monitoring Zone	Gradient (cm/cm)	K (cm/sec)	Porosity	Vertical Velocity (cm/sec)	Vertical Velocity (ft/day)	Vertical Seepage Rate (ft/year)
<b>Onsite</b>							
MW-05/BW-03 (BW-03R)	Unconsolidated Zone/Shallow Bedrock Zone	0.0110	2.70E-06	0.38	7.82E-08	2.22E-04	0.08088
MW-05/BW-03 (BW-03R)	Unconsolidated Zone/Shallow Bedrock Zone	0.0110	2.60E-08	0.38	7.53E-10	2.13E-06	0.00078
<b>Offsite</b>							
MW-01/BW-01	Unconsolidated Zone/Shallow Bedrock Zone	0.0022	2.70E-06	0.38	1.56E-08	4.43E-05	0.01618
MW-01/BW-01	Unconsolidated Zone/Shallow Bedrock Zone	0.0022	2.60E-08	0.38	1.51E-10	4.27E-07	0.00016

Notes:

Negative values for vertical gradients indicate upward movement. Positive values indicate downward movement.

$V = ki/n$

v = average vertical seepage rate

k = hydraulic conductivity; laboratory results from the Final 2003 Site Investigation Report (Appendix D), max K and Min K selected.

l = groundwater gradient (ft/ft), downward gradients from MW-01/BW-01 and MW-05/BW03 (BW-03R) nests in 2018 between unconsolidated and shallow zones.

n = porosity; average porosity used from the laboratory results from the Final 2003 Site Investigation Report, Appendix D.

cm = centimeter

sec = second

ft = feet



## Appendix C

### Laboratory Reports



## ANALYTICAL REPORT

Job Number: 280-110865-1

Job Description: THAN Davenport, IA - June 2018

For:  
CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201  
Attention: Ms. Shannon Olson



Approved for release.  
Jamie N Ide  
Project Manager I  
7/11/2018 5:49 PM

---

Jamie N Ide, Project Manager I  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0126  
jamie.ide@testamericainc.com  
07/11/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	5
Definitions . . . . .	5
Case Narrative . . . . .	7
Detection Summary . . . . .	11
Client Sample Results . . . . .	19
Default Detection Limits . . . . .	41
Surrogate Summary . . . . .	42
QC Sample Results . . . . .	44
QC Association . . . . .	63
Chronicle . . . . .	69
Certification Summary . . . . .	76
Method Summary . . . . .	77
Sample Summary . . . . .	78
Manual Integration Summary . . . . .	79
Reagent Traceability . . . . .	95
Organic Sample Data . . . . .	108
GC/MS VOA . . . . .	108
Method 8260B . . . . .	108
Method 8260B QC Summary . . . . .	109
Method 8260B Sample Data . . . . .	147
Standards Data . . . . .	178
Method 8260B ICAL Data . . . . .	178
Method 8260B CCAL Data . . . . .	342
Raw QC Data . . . . .	370
Method 8260B Blank Data . . . . .	370



# Table of Contents

Method 8260B LCS/LCSD Data .....	373
Method 8260B MS/MSD Data .....	377
Method 8260B Run Logs .....	383
Method 8260B Prep Data .....	422
GC VOA .....	442
Method RSK-175 .....	442
Method RSK-175 QC Summary .....	443
Method RSK-175 Sample Data .....	480
Standards Data .....	502
Method RSK-175 ICAL Data .....	502
Method RSK-175 CCAL Data .....	522
Raw QC Data .....	546
Method RSK-175 Blank Data .....	546
Method RSK-175 LCS/LCSD Data .....	548
Method RSK-175 MS/MSD Data .....	552
Method RSK-175 Duplicate/Triplicate Data .....	556
Method RSK-175 Run Logs .....	558
Inorganic Sample Data .....	563
General Chemistry Data .....	563
Gen Chem Cover Page .....	564
Gen Chem Sample Data .....	565
Gen Chem QC Data .....	583
Gen Chem ICV/CCV .....	583
Gen Chem Blanks .....	592
Gen Chem MS/MSD/PDS .....	593
Gen Chem Duplicates .....	595



# Table of Contents

Gen Chem LCS/LCSD .....	596
Gen Chem MDL .....	599
Gen Chem Analysis Run Log .....	611
Gen Chem Prep Data .....	628
Shipping and Receiving Documents .....	651
Client Chain of Custody .....	652
Sample Receipt Checklist .....	655



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
H	Sample was prepped or analyzed beyond the specified holding time
X	Surrogate is outside control limits
F2	MS/MSD RPD exceeds control limits

### GC VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)



## Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

---

### Glossary (Continued)

---

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



**CASE NARRATIVE**  
**Client: CH2M Hill, Inc.**  
**Project: THAN Davenport, IA - June 2018**  
**Report Number: 280-110865-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 6/13/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.0° C, 3.0° C and 5.6° C.

The container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): AFDV-146 (280-110865-7). The container labels list sample collection time "16:42", while the COC lists "16:32". The sample was logged per time listed on the COC. The client was notified on 6/13/18.

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): AFDV-128 (280-110865-3). The container labels list sample collection time "10:15", while the COC lists "10:10". The sample was logged per time listed on the COC. The client was notified on 6/13/18.

2 of 3 HCl preserved Voa Vials requesting 8260B VOCs analysis for samples AFDV-127 (280-110865-2), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11) and AFDV-106 (280-110865-16) were received with a headspace bubble >6mm in diameter. Sufficient volume is available for analysis without headspace; therefore, the laboratory will proceed with the requested analysis unless instructed otherwise by the client. The client was notified on 6/13/18.

2 of 3 HCl preserved Voa Vials requesting RSK\_175 Dissolved Gases analysis for samples AFDV-133 (280-110865-11), AFDV-116 (280-110865-13) and AFDV-119 (280-110865-17) were received with a headspace bubble >6mm in diameter. Sufficient volume is available for analysis without headspace; therefore, the laboratory will proceed with the requested analysis unless instructed otherwise by the client. The client was notified on 6/13/18.

1 of 3 HCl preserved Voa Vials requesting 8260B VOCs analysis for samples AFDV-108 (280-110865-12) and AFDV-120 (280-110865-18) was received with a headspace bubble >6mm in diameter. Sufficient volume is available for analysis without headspace; therefore, the laboratory will proceed with the requested analysis unless instructed otherwise by the client. The client was notified on 6/13/18.

1 of 3 HCl preserved Voa Vials requesting RSK\_175 Dissolved Gases analysis for samples AFDV-108 (280-110865-12), AFDV-106 (280-110865-16) and AFDV-120 (280-110865-18) was received with a headspace bubble >6mm in diameter. Sufficient volume is available for analysis without headspace; therefore, the laboratory will proceed with the requested analysis unless instructed otherwise by the client. The client was notified on 6/13/18.

1 of 2 HCl preserved Voa Vials requesting 8260B VOCs analysis for sample AFDV-148 (280-110865-20) was received with a headspace bubble >6mm in diameter. Sufficient volume is available for analysis without headspace; therefore, the laboratory will proceed with the requested analysis unless instructed otherwise by the client. The client was notified on 6/13/18.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples AFDV-126 (280-110865-1), AFDV-127 (280-110865-2), AFDV-128 (280-110865-3), AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-146 (280-110865-7), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-147 (280-110865-14), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19), AFDV-148 (280-110865-20) and AFDV-145 (280-110865-21) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/26/2018, 06/30/2018 and 07/04/2018.

The following volatile samples in batch 420036 was analyzed with significant headspace in the sample container(s): AFDV-128 (280-110865-3), AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-146 (280-110865-7), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-133 (280-110865-11), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17) and AFDV-110 (280-110865-19). Significant headspace is defined as a bubble greater than 6 mm in diameter. All available sample containers had headspace.

The following samples were analyzed outside of analytical holding time due to a high volume of samples received impacting analytical



capacity. The following samples are reported outside of 14 day holding time, but within 2x hold: AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19), AFDV-148 (280-110865-20), AFDV-145 (280-110865-21). The client was notified on 7/5/18, and requested data be reported; however, samples would be re-collected and submitted for analysis at a later date, due to this holding time violation.

1,2-Dichloroethane-d4 (Surr) and/or Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), and AFDV-110 (280-110865-19). Additional re-analysis would be performed further outside of holding time. The associated samples will be re-collected and submitted for analysis at a later date, due to holding time violation.

1,1-Dichloroethane, cis-1,2-Dichloroethene and/or Vinyl chloride failed the recovery criteria low for the MS/MSD of sample AFDV-126 (280-110865-1) in batch 280-420036. Refer to the QC report for details.

Benzene, m-Xylene & p-Xylene and/or Toluene failed the recovery criteria low for the MS/MSD of sample 280-111289-6 in batch 280-421081. 1,2-Dichloroethane, Acetone and Methyl ethyl ketone (MEK) failed the recovery criteria high. Methyl ethyl ketone (MEK) exceeded the RPD limit. Additionally, 1,2-Dichloroethane-d4 (Surr) failed the surrogate recovery criteria high. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

Samples AFDV-126 (280-110865-1)[200X], AFDV-126 (280-110865-1)[2000X], AFDV-128 (280-110865-3)[10X], AFDV-131 (280-110865-8)[100X], AFDV-131 (280-110865-8)[1000X], AFDV-134 (280-110865-9)[4X], AFDV-134 (280-110865-9)[40X], AFDV-132 (280-110865-10)[40X], AFDV-132 (280-110865-10)[400X], AFDV-133 (280-110865-11)[40X], AFDV-133 (280-110865-11)[400X], AFDV-106 (280-110865-16)[4X], AFDV-106 (280-110865-16)[40X], AFDV-119 (280-110865-17)[100X], AFDV-119 (280-110865-17)[1000X], AFDV-120 (280-110865-18)[200X], AFDV-120 (280-110865-18)[2000X], AFDV-110 (280-110865-19)[2X] and AFDV-110 (280-110865-19)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **DISSOLVED GASES**

Samples AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19) and AFDV-145 (280-110865-21) were analyzed for dissolved gases in accordance with RSK\_175. The samples were analyzed on 06/23/2018 and 06/27/2018.

The initial analysis of the following sample was performed with significant headspace in the sample container(s): AFDV-131 (280-110865-8). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Reanalysis of the following samples were performed outside of the analytical holding time due to Dilutions: AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-116 (280-110865-13), AFDV-119 (280-110865-17) and AFDV-120 (280-110865-18). The client was notified of this issue during final review, and requested that the laboratory report both in hold and out of hold data for these samples.

Due to inconsistencies between the sample vials the results for the associated sample could not be reproduced: AFDV-131 (280-110865-8). The result for Ethylene is reported with an E flag for being over the calibration range.

The container used for reanalysis of the following samples contained headspace: AFDV-131 (280-110865-8), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-116 (280-110865-13), AFDV-119 (280-110865-17) and AFDV-120 (280-110865-18). The method used for analysis requires that the sample does not contain headspace.

Methane was detected in method blank MB 280-419713/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Methane was detected in method blank MB 280-420253/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Methane failed the recovery criteria high for the MS/MSD of sample AFDV-108 (280-110865-12) in batch 280-419713. Refer to the QC report for details.

Samples AFDV-131 (280-110865-8)[3X], AFDV-134 (280-110865-9)[36X], AFDV-132 (280-110865-10)[36X], AFDV-133 (280-110865-11)[36X], AFDV-108 (280-110865-12)[3X], AFDV-116 (280-110865-13)[3X], AFDV-119 (280-110865-17)[18X] and AFDV-120 (280-110865-18)[18X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ALKALINITY**

Samples AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-131 (280-110865-8), AFDV-134



(280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19) and AFDV-145 (280-110865-21) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 06/21/2018 and 06/22/2018.

Alkalinity was detected in method blank MB 280-419644/32 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Alkalinity was detected in method blank MB 280-419644/58 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Alkalinity was detected in method blank MB 280-419644/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ANIONS (28 DAYS)**

Samples AFDV-126 (280-110865-1), AFDV-127 (280-110865-2), AFDV-128 (280-110865-3), AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19) and AFDV-145 (280-110865-21) were analyzed for anions (28 days) in accordance with EPA Method 300.0. The samples were analyzed on 06/13/2018, 06/14/2018 and 07/04/2018.

Samples AFDV-118 (280-110865-5)[5X], AFDV-131 (280-110865-8)[5X], AFDV-132 (280-110865-10)[2X], AFDV-133 (280-110865-11)[2X], AFDV-108 (280-110865-12)[5X], AFDV-119 (280-110865-17)[5X] and AFDV-120 (280-110865-18)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ANIONS (48 HOURS)**

Samples AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19) and AFDV-145 (280-110865-21) were analyzed for anions (48 hours) in accordance with EPA Method 300.0. The samples were analyzed on 06/13/2018 and 06/14/2018.

Samples AFDV-118 (280-110865-5)[5X] and AFDV-108 (280-110865-12)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **FERROUS IRON**

Samples AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19) and AFDV-145 (280-110865-21) were analyzed for ferrous iron in accordance with SM19 3500 FE D. The samples were analyzed on 06/14/2018.

Ferrous Iron failed the recovery criteria low for the MS/MSD of sample AFDV-129 (280-110865-4) in batch 280-418499. Refer to the QC report for details.

Samples AFDV-118 (280-110865-5)[10X], AFDV-108 (280-110865-12)[5X] and AFDV-116 (280-110865-13)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL ORGANIC CARBON**

Samples AFDV-126 (280-110865-1), AFDV-127 (280-110865-2), AFDV-128 (280-110865-3), AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19) and AFDV-145 (280-110865-21) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 06/25/2018 and 06/26/2018.

Total Organic Carbon - Average was detected in method blank MB 280-420057/35 at a level that was above the method detection limit



but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Total Organic Carbon - Average was detected in method blank MB 280-420057/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **SULFIDE**

Samples AFDV-129 (280-110865-4), AFDV-118 (280-110865-5), AFDV-124 (280-110865-6), AFDV-131 (280-110865-8), AFDV-134 (280-110865-9), AFDV-132 (280-110865-10), AFDV-133 (280-110865-11), AFDV-108 (280-110865-12), AFDV-116 (280-110865-13), AFDV-125 (280-110865-15), AFDV-106 (280-110865-16), AFDV-119 (280-110865-17), AFDV-120 (280-110865-18), AFDV-110 (280-110865-19) and AFDV-145 (280-110865-21) were analyzed for sulfide in accordance with SM20 4500 S2 F. The samples were analyzed on 06/14/2018.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Client Sample ID: AFDV-126

## Lab Sample ID: 280-110865-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1200		200	32	ug/L	200		8260B	Total/NA
1,1-Dichloroethane	3000	F1	200	44	ug/L	200		8260B	Total/NA
1,1-Dichloroethene	530		200	46	ug/L	200		8260B	Total/NA
Benzene	33	J	200	32	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene	56000	E	200	30	ug/L	200		8260B	Total/NA
Ethylbenzene	1500		200	32	ug/L	200		8260B	Total/NA
Methylene Chloride	72	J	400	64	ug/L	200		8260B	Total/NA
m-Xylene & p-Xylene	680		400	68	ug/L	200		8260B	Total/NA
o-Xylene	440		200	38	ug/L	200		8260B	Total/NA
Toluene	1700		200	34	ug/L	200		8260B	Total/NA
trans-1,2-Dichloroethene	45	J	200	30	ug/L	200		8260B	Total/NA
Vinyl chloride	17000	E	200	20	ug/L	200		8260B	Total/NA
Xylenes, Total	1100		400	38	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene - DL	45000		2000	300	ug/L	2000		8260B	Total/NA
Vinyl chloride - DL	15000		2000	200	ug/L	2000		8260B	Total/NA
Chloride	150		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	3.1	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-127

## Lab Sample ID: 280-110865-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.2		1.0	0.22	ug/L	1		8260B	Total/NA
Acetone	24		10	1.9	ug/L	1		8260B	Total/NA
Benzene	0.21	J	1.0	0.16	ug/L	1		8260B	Total/NA
Chloroethane	29		2.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.3		1.0	0.15	ug/L	1		8260B	Total/NA
Ethylbenzene	0.24	J	1.0	0.16	ug/L	1		8260B	Total/NA
Toluene	0.40	J	1.0	0.17	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.45	J	1.0	0.15	ug/L	1		8260B	Total/NA
Vinyl chloride	1.6		1.0	0.10	ug/L	1		8260B	Total/NA
Chloride	30		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	1.8	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-128

## Lab Sample ID: 280-110865-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	61	E	1.0	0.22	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.47	J	1.0	0.23	ug/L	1		8260B	Total/NA
Acetone	3.9	J	10	1.9	ug/L	1		8260B	Total/NA
Benzene	3.3		1.0	0.16	ug/L	1		8260B	Total/NA
Chloroethane	190	E	2.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	100	E	1.0	0.15	ug/L	1		8260B	Total/NA
Ethylbenzene	32		1.0	0.16	ug/L	1		8260B	Total/NA
Methylene Chloride	0.47	J	2.0	0.32	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	7.0		2.0	0.34	ug/L	1		8260B	Total/NA
o-Xylene	4.2		1.0	0.19	ug/L	1		8260B	Total/NA
Toluene	3.4		1.0	0.17	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.21	J	1.0	0.15	ug/L	1		8260B	Total/NA
Vinyl chloride	220	E	1.0	0.10	ug/L	1		8260B	Total/NA
Xylenes, Total	11		2.0	0.19	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Client Sample ID: AFDV-128 (Continued)

## Lab Sample ID: 280-110865-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane - DL	67		10	2.2	ug/L	10		8260B	Total/NA
Chloroethane - DL	210		20	4.1	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene - DL	110		10	1.5	ug/L	10		8260B	Total/NA
Vinyl chloride - DL	230		10	1.0	ug/L	10		8260B	Total/NA
Chloride	15		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	4.9	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-129

## Lab Sample ID: 280-110865-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	610	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	1.9	J	5.0	0.57	ug/L	1		RSK-175	Total/NA
Chloride	8.5		3.0	0.25	mg/L	1		300.0	Total/NA
Nitrate as N	0.068	J	0.50	0.042	mg/L	1		300.0	Total/NA
Sulfate	7.7		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	6.5	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	480	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	0.60	J	1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA

## Client Sample ID: AFDV-118

## Lab Sample ID: 280-110865-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.6	J	10	1.9	ug/L	1		8260B	Total/NA
Chloroethane	15		2.0	0.41	ug/L	1		8260B	Total/NA
Methane	13000	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	400		5.0	0.57	ug/L	1		RSK-175	Total/NA
Chloride	100		15	1.3	mg/L	5		300.0	Total/NA
Total Organic Carbon - Average	11	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	660	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Ferrous Iron	0.99	J HF	2.0	0.21	mg/L	10		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-124

## Lab Sample ID: 280-110865-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	2200	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	14		5.0	0.57	ug/L	1		RSK-175	Total/NA
Chloride	35		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	5.2	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	360	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	0.80	J	1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA
Ferrous Iron	0.12	J HF	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-146

## Lab Sample ID: 280-110865-7

No Detections.

## Client Sample ID: AFDV-131

## Lab Sample ID: 280-110865-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	120		100	16	ug/L	100		8260B	Total/NA
1,1-Dichloroethane	3100		100	22	ug/L	100		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Client Sample ID: AFDV-131 (Continued)

## Lab Sample ID: 280-110865-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	180		100	23	ug/L	100		8260B	Total/NA
Benzene	54	J	100	16	ug/L	100		8260B	Total/NA
Chloroethane	1000		200	41	ug/L	100		8260B	Total/NA
cis-1,2-Dichloroethene	7200	E	100	15	ug/L	100		8260B	Total/NA
Ethylbenzene	830		100	16	ug/L	100		8260B	Total/NA
m-Xylene & p-Xylene	1800		200	34	ug/L	100		8260B	Total/NA
o-Xylene	650		100	19	ug/L	100		8260B	Total/NA
Toluene	20000	E	100	17	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	29	J	100	15	ug/L	100		8260B	Total/NA
Vinyl chloride	13000	E	100	10	ug/L	100		8260B	Total/NA
Xylenes, Total	2500		200	19	ug/L	100		8260B	Total/NA
cis-1,2-Dichloroethene - DL	7000		1000	150	ug/L	1000		8260B	Total/NA
Toluene - DL	19000		1000	170	ug/L	1000		8260B	Total/NA
Vinyl chloride - DL	13000		1000	100	ug/L	1000		8260B	Total/NA
Methane	2900	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	1300	E	5.0	0.57	ug/L	1		RSK-175	Total/NA
Methane - DL	1400	H B	15	0.65	ug/L	3		RSK-175	Total/NA
Ethene - DL	5800	H E	15	1.2	ug/L	3		RSK-175	Total/NA
Ethane - DL	680	H	15	1.7	ug/L	3		RSK-175	Total/NA
Chloride	300		15	1.3	mg/L	5		300.0	Total/NA
Sulfate	1.2	J	5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	17	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	550	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	6.4		1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA
Ferrous Iron	0.32	HF	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-134

## Lab Sample ID: 280-110865-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.1	J	4.0	0.64	ug/L	4		8260B	Total/NA
1,1-Dichloroethane	49		4.0	0.88	ug/L	4		8260B	Total/NA
Benzene	21		4.0	0.64	ug/L	4		8260B	Total/NA
Chloroethane	1200	E	8.0	1.6	ug/L	4		8260B	Total/NA
cis-1,2-Dichloroethene	19		4.0	0.60	ug/L	4		8260B	Total/NA
Ethylbenzene	160		4.0	0.64	ug/L	4		8260B	Total/NA
m-Xylene & p-Xylene	510	E	8.0	1.4	ug/L	4		8260B	Total/NA
o-Xylene	130		4.0	0.76	ug/L	4		8260B	Total/NA
Tetrachloroethene	1.5	J	4.0	0.80	ug/L	4		8260B	Total/NA
Toluene	910	E	4.0	0.68	ug/L	4		8260B	Total/NA
trans-1,2-Dichloroethene	2.1	J	4.0	0.60	ug/L	4		8260B	Total/NA
Vinyl chloride	73		4.0	0.40	ug/L	4		8260B	Total/NA
Xylenes, Total	640	E	8.0	0.76	ug/L	4		8260B	Total/NA
Chloroethane - DL	1100		80	16	ug/L	40		8260B	Total/NA
m-Xylene & p-Xylene - DL	470		80	14	ug/L	40		8260B	Total/NA
o-Xylene - DL	130		40	7.6	ug/L	40		8260B	Total/NA
Toluene - DL	800		40	6.8	ug/L	40		8260B	Total/NA
Xylenes, Total - DL	600		80	7.6	ug/L	40		8260B	Total/NA
Methane	4800	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Methane - DL	5600	H B	180	7.8	ug/L	36		RSK-175	Total/NA
Ethene - DL	3100	H	180	14	ug/L	36		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Client Sample ID: AFDV-134 (Continued)

## Lab Sample ID: 280-110865-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethane - DL	5000	H	180	21	ug/L	36		RSK-175	Total/NA
Chloride	66		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	5.7	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	490	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	2.2		1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA
Ferrous Iron	0.054	J HF	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-132

## Lab Sample ID: 280-110865-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	36	J	40	6.4	ug/L	40		8260B	Total/NA
1,1-Dichloroethane	1100		40	8.8	ug/L	40		8260B	Total/NA
1,1-Dichloroethene	26	J	40	9.2	ug/L	40		8260B	Total/NA
Benzene	36	J	40	6.4	ug/L	40		8260B	Total/NA
Chloroethane	1400		80	16	ug/L	40		8260B	Total/NA
cis-1,2-Dichloroethene	1300		40	6.0	ug/L	40		8260B	Total/NA
Ethylbenzene	430		40	6.4	ug/L	40		8260B	Total/NA
m-Xylene & p-Xylene	940		80	14	ug/L	40		8260B	Total/NA
o-Xylene	330		40	7.6	ug/L	40		8260B	Total/NA
Toluene	9600	E	40	6.8	ug/L	40		8260B	Total/NA
trans-1,2-Dichloroethene	11	J	40	6.0	ug/L	40		8260B	Total/NA
Vinyl chloride	2400		40	4.0	ug/L	40		8260B	Total/NA
Xylenes, Total	1300		80	7.6	ug/L	40		8260B	Total/NA
Toluene - DL	8500		400	68	ug/L	400		8260B	Total/NA
Methane	4800	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	2100	E	5.0	0.57	ug/L	1		RSK-175	Total/NA
Methane - DL	4900	H B	180	7.8	ug/L	36		RSK-175	Total/NA
Ethene - DL	13000	H	180	14	ug/L	36		RSK-175	Total/NA
Ethane - DL	2400	H	180	21	ug/L	36		RSK-175	Total/NA
Chloride	260		6.0	0.51	mg/L	2		300.0	Total/NA
Total Organic Carbon - Average	13	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	540	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	7.0		1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA
Ferrous Iron	0.18	J HF	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-133

## Lab Sample ID: 280-110865-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	37	J	40	6.4	ug/L	40		8260B	Total/NA
1,1-Dichloroethane	1200		40	8.8	ug/L	40		8260B	Total/NA
1,1-Dichloroethene	26	J	40	9.2	ug/L	40		8260B	Total/NA
Benzene	37	J	40	6.4	ug/L	40		8260B	Total/NA
Chloroethane	1300		80	16	ug/L	40		8260B	Total/NA
cis-1,2-Dichloroethene	1300		40	6.0	ug/L	40		8260B	Total/NA
Ethylbenzene	470		40	6.4	ug/L	40		8260B	Total/NA
m-Xylene & p-Xylene	980		80	14	ug/L	40		8260B	Total/NA
o-Xylene	340		40	7.6	ug/L	40		8260B	Total/NA
Toluene	9900	E	40	6.8	ug/L	40		8260B	Total/NA
trans-1,2-Dichloroethene	11	J	40	6.0	ug/L	40		8260B	Total/NA
Vinyl chloride	2300		40	4.0	ug/L	40		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Client Sample ID: AFDV-133 (Continued)

## Lab Sample ID: 280-110865-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Xylenes, Total	1300		80	7.6	ug/L	40		8260B	Total/NA
Toluene - DL	9000		400	68	ug/L	400		8260B	Total/NA
Methane	5000	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	2200	E	5.0	0.57	ug/L	1		RSK-175	Total/NA
Methane - DL	2200	H B	180	7.8	ug/L	36		RSK-175	Total/NA
Ethene - DL	6400	H	180	14	ug/L	36		RSK-175	Total/NA
Ethane - DL	1200	H	180	21	ug/L	36		RSK-175	Total/NA
Chloride	270		6.0	0.51	mg/L	2		300.0	Total/NA
Sulfate	0.90	J	5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	13	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	540	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	4.6		1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA
Ferrous Iron	0.18	J HF	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-108

## Lab Sample ID: 280-110865-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	12000	B	15	0.65	ug/L	3		RSK-175	Total/NA
Ethane	8.3	J	15	1.7	ug/L	3		RSK-175	Total/NA
Chloride	34		15	1.3	mg/L	5		300.0	Total/NA
Total Organic Carbon - Average	9.8	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	570	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Ferrous Iron	1.1	HF	1.0	0.11	mg/L	5		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-116

## Lab Sample ID: 280-110865-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroethane	0.54	J	2.0	0.41	ug/L	1		8260B	Total/NA
Methane	21000	E B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	4.2	J	5.0	0.57	ug/L	1		RSK-175	Total/NA
Methane - DL	8700	H B	15	0.65	ug/L	3		RSK-175	Total/NA
Ethane - DL	8.8	J H	15	1.7	ug/L	3		RSK-175	Total/NA
Chloride	39		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	9.5	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	550	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Ferrous Iron	0.64	HF	0.40	0.042	mg/L	2		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-147

## Lab Sample ID: 280-110865-14

No Detections.

## Client Sample ID: AFDV-125

## Lab Sample ID: 280-110865-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	0.61	J B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Chloride	14		3.0	0.25	mg/L	1		300.0	Total/NA
Nitrate as N	2.8		0.50	0.042	mg/L	1		300.0	Total/NA
Sulfate	18		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	3.3	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	190	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	0.60	J	1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Client Sample ID: AFDV-106

## Lab Sample ID: 280-110865-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	20		4.0	0.64	ug/L	4		8260B	Total/NA
1,1-Dichloroethane	54		4.0	0.88	ug/L	4		8260B	Total/NA
1,1-Dichloroethene	6.6		4.0	0.92	ug/L	4		8260B	Total/NA
cis-1,2-Dichloroethene	1100	E	4.0	0.60	ug/L	4		8260B	Total/NA
trans-1,2-Dichloroethene	2.7	J	4.0	0.60	ug/L	4		8260B	Total/NA
Trichloroethene	5.0		4.0	0.64	ug/L	4		8260B	Total/NA
Vinyl chloride	300	E	4.0	0.40	ug/L	4		8260B	Total/NA
cis-1,2-Dichloroethene - DL	1100		40	6.0	ug/L	40		8260B	Total/NA
Vinyl chloride - DL	270		40	4.0	ug/L	40		8260B	Total/NA
Methane	99	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	28		5.0	0.57	ug/L	1		RSK-175	Total/NA
Chloride	33		3.0	0.25	mg/L	1		300.0	Total/NA
Sulfate	150		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	3.4	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	410	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA

## Client Sample ID: AFDV-119

## Lab Sample ID: 280-110865-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	4400	H	100	16	ug/L	100		8260B	Total/NA
1,1-Dichloroethane	14000	H E	100	22	ug/L	100		8260B	Total/NA
1,1-Dichloroethene	990	H	100	23	ug/L	100		8260B	Total/NA
Benzene	96	J H	100	16	ug/L	100		8260B	Total/NA
cis-1,2-Dichloroethene	59000	H E	100	15	ug/L	100		8260B	Total/NA
Ethylbenzene	3800	H	100	16	ug/L	100		8260B	Total/NA
Methylene Chloride	37	J H	200	32	ug/L	100		8260B	Total/NA
m-Xylene & p-Xylene	12000	H E	200	34	ug/L	100		8260B	Total/NA
o-Xylene	4700	H	100	19	ug/L	100		8260B	Total/NA
Toluene	190	H	100	17	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	130	H	100	15	ug/L	100		8260B	Total/NA
Vinyl chloride	28000	H E	100	10	ug/L	100		8260B	Total/NA
Xylenes, Total	17000	H	200	19	ug/L	100		8260B	Total/NA
1,1-Dichloroethane - DL	14000	H	1000	220	ug/L	1000		8260B	Total/NA
cis-1,2-Dichloroethene - DL	70000	H E	1000	150	ug/L	1000		8260B	Total/NA
m-Xylene & p-Xylene - DL	12000	H	2000	340	ug/L	1000		8260B	Total/NA
o-Xylene - DL	4300	H	1000	190	ug/L	1000		8260B	Total/NA
Vinyl chloride - DL	29000	H	1000	100	ug/L	1000		8260B	Total/NA
Xylenes, Total - DL	16000	H	2000	190	ug/L	1000		8260B	Total/NA
Methane	150	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethene	6400	E	5.0	0.40	ug/L	1		RSK-175	Total/NA
Ethane	29		5.0	0.57	ug/L	1		RSK-175	Total/NA
Methane - DL	190	H B	90	3.9	ug/L	18		RSK-175	Total/NA
Ethene - DL	7600	H	90	7.2	ug/L	18		RSK-175	Total/NA
Ethane - DL	38	J H	90	10	ug/L	18		RSK-175	Total/NA
Chloride	310		15	1.3	mg/L	5		300.0	Total/NA
Sulfate	63		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	15	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	630	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	27		1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA
Ferrous Iron	1.2	HF	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-120**

**Lab Sample ID: 280-110865-18**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	3900	H	200	32	ug/L	200		8260B	Total/NA
1,1-Dichloroethane	12000	H E	200	44	ug/L	200		8260B	Total/NA
1,1-Dichloroethene	880	H	200	46	ug/L	200		8260B	Total/NA
Benzene	89	J H	200	32	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene	61000	H E	200	30	ug/L	200		8260B	Total/NA
Ethylbenzene	3400	H	200	32	ug/L	200		8260B	Total/NA
m-Xylene & p-Xylene	11000	H	400	68	ug/L	200		8260B	Total/NA
o-Xylene	4000	H	200	38	ug/L	200		8260B	Total/NA
Toluene	25000	H E	200	34	ug/L	200		8260B	Total/NA
trans-1,2-Dichloroethene	120	J H	200	30	ug/L	200		8260B	Total/NA
Vinyl chloride	24000	H E	200	20	ug/L	200		8260B	Total/NA
Xylenes, Total	15000	H	400	38	ug/L	200		8260B	Total/NA
1,1-Dichloroethane - DL	18000	H	2000	440	ug/L	2000		8260B	Total/NA
cis-1,2-Dichloroethene - DL	86000	H	2000	300	ug/L	2000		8260B	Total/NA
Toluene - DL	44000	H	2000	340	ug/L	2000		8260B	Total/NA
Vinyl chloride - DL	36000	H	2000	200	ug/L	2000		8260B	Total/NA
Methane	200	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethene	6800	E	5.0	0.40	ug/L	1		RSK-175	Total/NA
Ethane	31		5.0	0.57	ug/L	1		RSK-175	Total/NA
Methane - DL	210	H B	90	3.9	ug/L	18		RSK-175	Total/NA
Ethene - DL	7700	H	90	7.2	ug/L	18		RSK-175	Total/NA
Ethane - DL	39	J H	90	10	ug/L	18		RSK-175	Total/NA
Chloride	310		15	1.3	mg/L	5		300.0	Total/NA
Sulfate	69		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	14	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	640	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	3.0		1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA
Ferrous Iron	1.2	HF	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

**Client Sample ID: AFDV-110**

**Lab Sample ID: 280-110865-19**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	150	H E	2.0	0.44	ug/L	2		8260B	Total/NA
1,1-Dichloroethene	10	H	2.0	0.46	ug/L	2		8260B	Total/NA
1,2-Dichloroethane	1.8	J H	2.0	0.26	ug/L	2		8260B	Total/NA
cis-1,2-Dichloroethene	380	H E	2.0	0.30	ug/L	2		8260B	Total/NA
trans-1,2-Dichloroethene	2.1	H	2.0	0.30	ug/L	2		8260B	Total/NA
Vinyl chloride	170	H E	2.0	0.20	ug/L	2		8260B	Total/NA
1,1-Dichloroethane - DL	170	H	20	4.4	ug/L	20		8260B	Total/NA
cis-1,2-Dichloroethene - DL	430	H	20	3.0	ug/L	20		8260B	Total/NA
Vinyl chloride - DL	200	H	20	2.0	ug/L	20		8260B	Total/NA
Methane	170	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethene	95		5.0	0.40	ug/L	1		RSK-175	Total/NA
Ethane	3.0	J	5.0	0.57	ug/L	1		RSK-175	Total/NA
Chloride	120		3.0	0.25	mg/L	1		300.0	Total/NA
Sulfate	70		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	2.2	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	340	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Sulfide	0.60	J	1.0	0.50	mg/L	1		SM 4500 S2 F	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-148**

**Lab Sample ID: 280-110865-20**

No Detections.

**Client Sample ID: AFDV-145**

**Lab Sample ID: 280-110865-21**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
m-Xylene & p-Xylene	0.46	J H	2.0	0.34	ug/L	1			8260B	Total/NA
o-Xylene	0.20	J H	1.0	0.19	ug/L	1			8260B	Total/NA
Styrene	0.56	J H	1.0	0.17	ug/L	1			8260B	Total/NA
Toluene	0.29	J H	1.0	0.17	ug/L	1			8260B	Total/NA
Xylenes, Total	0.66	J H	2.0	0.19	ug/L	1			8260B	Total/NA
Methane	0.63	J B	5.0	0.22	ug/L	1			RSK-175	Total/NA
Nitrate as N	0.043	J	0.50	0.042	mg/L	1			300.0	Total/NA
Total Organic Carbon - Average	0.38	J B	1.0	0.16	mg/L	1			9060	Total/NA
Alkalinity	3.9	J B	5.0	1.1	mg/L	1			SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-126**

**Date Collected: 06/12/18 10:05**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1200		200	32	ug/L			06/26/18 10:51	200
1,1-Dichloroethane	3000	F1	200	44	ug/L			06/26/18 10:51	200
1,1-Dichloroethene	530		200	46	ug/L			06/26/18 10:51	200
1,2-Dichloroethane	ND		200	26	ug/L			06/26/18 10:51	200
Methyl ethyl ketone (MEK)	ND		1200	400	ug/L			06/26/18 10:51	200
Acetone	ND		2000	380	ug/L			06/26/18 10:51	200
Benzene	33	J	200	32	ug/L			06/26/18 10:51	200
Chloroethane	ND		400	82	ug/L			06/26/18 10:51	200
cis-1,2-Dichloroethene	56000	E	200	30	ug/L			06/26/18 10:51	200
Ethylbenzene	1500		200	32	ug/L			06/26/18 10:51	200
Methylene Chloride	72	J	400	64	ug/L			06/26/18 10:51	200
m-Xylene & p-Xylene	680		400	68	ug/L			06/26/18 10:51	200
o-Xylene	440		200	38	ug/L			06/26/18 10:51	200
Styrene	ND		200	34	ug/L			06/26/18 10:51	200
Tetrachloroethene	ND		200	40	ug/L			06/26/18 10:51	200
Toluene	1700		200	34	ug/L			06/26/18 10:51	200
trans-1,2-Dichloroethene	45	J	200	30	ug/L			06/26/18 10:51	200
Trichloroethene	ND		200	32	ug/L			06/26/18 10:51	200
Vinyl chloride	17000	E	200	20	ug/L			06/26/18 10:51	200
Xylenes, Total	1100		400	38	ug/L			06/26/18 10:51	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 127		06/26/18 10:51	200
4-Bromofluorobenzene (Surr)	93		78 - 120		06/26/18 10:51	200
Dibromofluoromethane (Surr)	109		77 - 120		06/26/18 10:51	200
Toluene-d8 (Surr)	96		80 - 125		06/26/18 10:51	200

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	45000		2000	300	ug/L			06/26/18 11:13	2000
Vinyl chloride	15000		2000	200	ug/L			06/26/18 11:13	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 127		06/26/18 11:13	2000
4-Bromofluorobenzene (Surr)	104		78 - 120		06/26/18 11:13	2000
Dibromofluoromethane (Surr)	100		77 - 120		06/26/18 11:13	2000
Toluene-d8 (Surr)	98		80 - 125		06/26/18 11:13	2000

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		3.0	0.25	mg/L			07/04/18 00:16	1
Total Organic Carbon - Average	3.1	B	1.0	0.16	mg/L			06/25/18 23:33	1

**Client Sample ID: AFDV-127**

**Date Collected: 06/12/18 10:10**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 12:17	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-127**

**Lab Sample ID: 280-110865-2**

**Date Collected: 06/12/18 10:10**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethane</b>	<b>1.2</b>		1.0	0.22	ug/L			06/26/18 12:17	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 12:17	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 12:17	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 12:17	1
<b>Acetone</b>	<b>24</b>		10	1.9	ug/L			06/26/18 12:17	1
<b>Benzene</b>	<b>0.21</b>	<b>J</b>	1.0	0.16	ug/L			06/26/18 12:17	1
<b>Chloroethane</b>	<b>29</b>		2.0	0.41	ug/L			06/26/18 12:17	1
<b>cis-1,2-Dichloroethene</b>	<b>1.3</b>		1.0	0.15	ug/L			06/26/18 12:17	1
<b>Ethylbenzene</b>	<b>0.24</b>	<b>J</b>	1.0	0.16	ug/L			06/26/18 12:17	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 12:17	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 12:17	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 12:17	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 12:17	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 12:17	1
<b>Toluene</b>	<b>0.40</b>	<b>J</b>	1.0	0.17	ug/L			06/26/18 12:17	1
<b>trans-1,2-Dichloroethene</b>	<b>0.45</b>	<b>J</b>	1.0	0.15	ug/L			06/26/18 12:17	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 12:17	1
<b>Vinyl chloride</b>	<b>1.6</b>		1.0	0.10	ug/L			06/26/18 12:17	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 12:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		06/26/18 12:17	1
4-Bromofluorobenzene (Surr)	94		78 - 120		06/26/18 12:17	1
Dibromofluoromethane (Surr)	110		77 - 120		06/26/18 12:17	1
Toluene-d8 (Surr)	98		80 - 125		06/26/18 12:17	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>30</b>		3.0	0.25	mg/L			07/04/18 01:45	1
<b>Total Organic Carbon - Average</b>	<b>1.8</b>	<b>B</b>	1.0	0.16	mg/L			06/25/18 23:49	1

**Client Sample ID: AFDV-128**

**Lab Sample ID: 280-110865-3**

**Date Collected: 06/12/18 10:10**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 12:39	1
<b>1,1-Dichloroethane</b>	<b>61</b>	<b>E</b>	1.0	0.22	ug/L			06/26/18 12:39	1
<b>1,1-Dichloroethene</b>	<b>0.47</b>	<b>J</b>	1.0	0.23	ug/L			06/26/18 12:39	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 12:39	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 12:39	1
<b>Acetone</b>	<b>3.9</b>	<b>J</b>	10	1.9	ug/L			06/26/18 12:39	1
<b>Benzene</b>	<b>3.3</b>		1.0	0.16	ug/L			06/26/18 12:39	1
<b>Chloroethane</b>	<b>190</b>	<b>E</b>	2.0	0.41	ug/L			06/26/18 12:39	1
<b>cis-1,2-Dichloroethene</b>	<b>100</b>	<b>E</b>	1.0	0.15	ug/L			06/26/18 12:39	1
<b>Ethylbenzene</b>	<b>32</b>		1.0	0.16	ug/L			06/26/18 12:39	1
<b>Methylene Chloride</b>	<b>0.47</b>	<b>J</b>	2.0	0.32	ug/L			06/26/18 12:39	1
<b>m-Xylene &amp; p-Xylene</b>	<b>7.0</b>		2.0	0.34	ug/L			06/26/18 12:39	1
<b>o-Xylene</b>	<b>4.2</b>		1.0	0.19	ug/L			06/26/18 12:39	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-128**

**Lab Sample ID: 280-110865-3**

**Date Collected: 06/12/18 10:10**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	0.17	ug/L			06/26/18 12:39	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 12:39	1
<b>Toluene</b>	<b>3.4</b>		1.0	0.17	ug/L			06/26/18 12:39	1
<b>trans-1,2-Dichloroethene</b>	<b>0.21</b>	<b>J</b>	1.0	0.15	ug/L			06/26/18 12:39	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 12:39	1
<b>Vinyl chloride</b>	<b>220</b>	<b>E</b>	1.0	0.10	ug/L			06/26/18 12:39	1
<b>Xylenes, Total</b>	<b>11</b>		2.0	0.19	ug/L			06/26/18 12:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		06/26/18 12:39	1
4-Bromofluorobenzene (Surr)	103		78 - 120		06/26/18 12:39	1
Dibromofluoromethane (Surr)	110		77 - 120		06/26/18 12:39	1
Toluene-d8 (Surr)	96		80 - 125		06/26/18 12:39	1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethane</b>	<b>67</b>		10	2.2	ug/L			06/26/18 13:00	10
<b>Chloroethane</b>	<b>210</b>		20	4.1	ug/L			06/26/18 13:00	10
<b>cis-1,2-Dichloroethene</b>	<b>110</b>		10	1.5	ug/L			06/26/18 13:00	10
<b>Vinyl chloride</b>	<b>230</b>		10	1.0	ug/L			06/26/18 13:00	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 127		06/26/18 13:00	10
4-Bromofluorobenzene (Surr)	101		78 - 120		06/26/18 13:00	10
Dibromofluoromethane (Surr)	108		77 - 120		06/26/18 13:00	10
Toluene-d8 (Surr)	95		80 - 125		06/26/18 13:00	10

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>15</b>		3.0	0.25	mg/L			07/04/18 02:08	1
<b>Total Organic Carbon - Average</b>	<b>4.9</b>	<b>B</b>	1.0	0.16	mg/L			06/26/18 00:52	1

**Client Sample ID: AFDV-129**

**Lab Sample ID: 280-110865-4**

**Date Collected: 06/12/18 11:35**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 13:22	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 13:22	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 13:22	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 13:22	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 13:22	1
Acetone	ND		10	1.9	ug/L			06/26/18 13:22	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 13:22	1
Chloroethane	ND		2.0	0.41	ug/L			06/26/18 13:22	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 13:22	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 13:22	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 13:22	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 13:22	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 13:22	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-129**

**Lab Sample ID: 280-110865-4**

**Date Collected: 06/12/18 11:35**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	0.17	ug/L			06/26/18 13:22	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 13:22	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 13:22	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 13:22	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 13:22	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 13:22	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 13:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		06/26/18 13:22	1
4-Bromofluorobenzene (Surr)	102		78 - 120		06/26/18 13:22	1
Dibromofluoromethane (Surr)	110		77 - 120		06/26/18 13:22	1
Toluene-d8 (Surr)	99		80 - 125		06/26/18 13:22	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	610	B	5.0	0.22	ug/L			06/23/18 11:47	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 11:47	1
Ethane	1.9	J	5.0	0.57	ug/L			06/23/18 11:47	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8.5		3.0	0.25	mg/L			06/13/18 19:08	1
Nitrate as N	0.068	J	0.50	0.042	mg/L			06/13/18 19:08	1
Sulfate	7.7		5.0	0.23	mg/L			06/13/18 19:08	1
Total Organic Carbon - Average	6.5	B	1.0	0.16	mg/L			06/26/18 01:07	1
Alkalinity	480	B	5.0	1.1	mg/L			06/21/18 23:47	1
Sulfide	0.60	J	1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	ND	HF F1	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-118**

**Lab Sample ID: 280-110865-5**

**Date Collected: 06/12/18 11:30**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 13:43	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 13:43	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 13:43	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 13:43	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 13:43	1
Acetone	6.6	J	10	1.9	ug/L			06/26/18 13:43	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 13:43	1
Chloroethane	15		2.0	0.41	ug/L			06/26/18 13:43	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 13:43	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 13:43	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 13:43	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 13:43	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 13:43	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 13:43	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-118**

**Lab Sample ID: 280-110865-5**

**Date Collected: 06/12/18 11:30**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 13:43	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 13:43	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 13:43	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 13:43	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 13:43	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/26/18 13:43	1
4-Bromofluorobenzene (Surr)	100		78 - 120		06/26/18 13:43	1
Dibromofluoromethane (Surr)	107		77 - 120		06/26/18 13:43	1
Toluene-d8 (Surr)	95		80 - 125		06/26/18 13:43	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	13000	B	5.0	0.22	ug/L			06/23/18 12:01	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 12:01	1
Ethane	400		5.0	0.57	ug/L			06/23/18 12:01	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		15	1.3	mg/L			06/13/18 18:46	5
Nitrate as N	ND		2.5	0.21	mg/L			06/13/18 18:46	5
Sulfate	ND		25	1.2	mg/L			06/13/18 18:46	5
Total Organic Carbon - Average	11	B	1.0	0.16	mg/L			06/26/18 02:56	1
Alkalinity	660	B	5.0	1.1	mg/L			06/22/18 00:07	1
Sulfide	ND		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	0.99	J HF	2.0	0.21	mg/L			06/14/18 04:38	10

**Client Sample ID: AFDV-124**

**Lab Sample ID: 280-110865-6**

**Date Collected: 06/12/18 10:10**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 14:05	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 14:05	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 14:05	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 14:05	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 14:05	1
Acetone	ND		10	1.9	ug/L			06/26/18 14:05	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 14:05	1
Chloroethane	ND		2.0	0.41	ug/L			06/26/18 14:05	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 14:05	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 14:05	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 14:05	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 14:05	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 14:05	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 14:05	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 14:05	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-124**

**Date Collected: 06/12/18 10:10**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	0.17	ug/L			06/26/18 14:05	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 14:05	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 14:05	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 14:05	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 14:05	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127					06/26/18 14:05	1
4-Bromofluorobenzene (Surr)	103		78 - 120					06/26/18 14:05	1
Dibromofluoromethane (Surr)	110		77 - 120					06/26/18 14:05	1
Toluene-d8 (Surr)	97		80 - 125					06/26/18 14:05	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2200	B	5.0	0.22	ug/L			06/23/18 12:15	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 12:15	1
Ethane	14		5.0	0.57	ug/L			06/23/18 12:15	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35		3.0	0.25	mg/L			06/13/18 18:24	1
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 18:24	1
Sulfate	ND		5.0	0.23	mg/L			06/13/18 18:24	1
Total Organic Carbon - Average	5.2	B	1.0	0.16	mg/L			06/26/18 03:15	1
Alkalinity	360	B	5.0	1.1	mg/L			06/22/18 00:13	1
Sulfide	0.80	J	1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	0.12	J HF	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-146**

**Date Collected: 06/12/18 16:32**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 14:26	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 14:26	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 14:26	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 14:26	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 14:26	1
Acetone	ND		10	1.9	ug/L			06/26/18 14:26	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 14:26	1
Chloroethane	ND		2.0	0.41	ug/L			06/26/18 14:26	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 14:26	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 14:26	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 14:26	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 14:26	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 14:26	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 14:26	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 14:26	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 14:26	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-146**

**Lab Sample ID: 280-110865-7**

**Date Collected: 06/12/18 16:32**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 14:26	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 14:26	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 14:26	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 14:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 127					06/26/18 14:26	1
4-Bromofluorobenzene (Surr)	103		78 - 120					06/26/18 14:26	1
Dibromofluoromethane (Surr)	109		77 - 120					06/26/18 14:26	1
Toluene-d8 (Surr)	96		80 - 125					06/26/18 14:26	1

**Client Sample ID: AFDV-131**

**Lab Sample ID: 280-110865-8**

**Date Collected: 06/12/18 14:50**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	120		100	16	ug/L			06/26/18 14:48	100
1,1-Dichloroethane	3100		100	22	ug/L			06/26/18 14:48	100
1,1-Dichloroethene	180		100	23	ug/L			06/26/18 14:48	100
1,2-Dichloroethane	ND		100	13	ug/L			06/26/18 14:48	100
Methyl ethyl ketone (MEK)	ND		600	200	ug/L			06/26/18 14:48	100
Acetone	ND		1000	190	ug/L			06/26/18 14:48	100
Benzene	54	J	100	16	ug/L			06/26/18 14:48	100
Chloroethane	1000		200	41	ug/L			06/26/18 14:48	100
cis-1,2-Dichloroethene	7200	E	100	15	ug/L			06/26/18 14:48	100
Ethylbenzene	830		100	16	ug/L			06/26/18 14:48	100
Methylene Chloride	ND		200	32	ug/L			06/26/18 14:48	100
m-Xylene & p-Xylene	1800		200	34	ug/L			06/26/18 14:48	100
o-Xylene	650		100	19	ug/L			06/26/18 14:48	100
Styrene	ND		100	17	ug/L			06/26/18 14:48	100
Tetrachloroethene	ND		100	20	ug/L			06/26/18 14:48	100
Toluene	20000	E	100	17	ug/L			06/26/18 14:48	100
trans-1,2-Dichloroethene	29	J	100	15	ug/L			06/26/18 14:48	100
Trichloroethene	ND		100	16	ug/L			06/26/18 14:48	100
Vinyl chloride	13000	E	100	10	ug/L			06/26/18 14:48	100
Xylenes, Total	2500		200	19	ug/L			06/26/18 14:48	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 127					06/26/18 14:48	100
4-Bromofluorobenzene (Surr)	92		78 - 120					06/26/18 14:48	100
Dibromofluoromethane (Surr)	108		77 - 120					06/26/18 14:48	100
Toluene-d8 (Surr)	98		80 - 125					06/26/18 14:48	100

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	7000		1000	150	ug/L			06/26/18 15:09	1000
Toluene	19000		1000	170	ug/L			06/26/18 15:09	1000
Vinyl chloride	13000		1000	100	ug/L			06/26/18 15:09	1000

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-131**

**Date Collected: 06/12/18 14:50**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-8**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 127		06/26/18 15:09	1000
4-Bromofluorobenzene (Surr)	90		78 - 120		06/26/18 15:09	1000
Dibromofluoromethane (Surr)	113		77 - 120		06/26/18 15:09	1000
Toluene-d8 (Surr)	96		80 - 125		06/26/18 15:09	1000

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2900	B	5.0	0.22	ug/L	-		06/23/18 12:29	1
Ethene	ND		5.0	0.40	ug/L	-		06/23/18 12:29	1
Ethane	1300	E	5.0	0.57	ug/L	-		06/23/18 12:29	1

## Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	1400	H B	15	0.65	ug/L	-		06/27/18 15:55	3
Ethene	5800	H E	15	1.2	ug/L	-		06/27/18 15:55	3
Ethane	680	H	15	1.7	ug/L	-		06/27/18 15:55	3

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300		15	1.3	mg/L	-		07/04/18 02:30	5
Nitrate as N	ND		0.50	0.042	mg/L	-		06/13/18 21:44	1
Sulfate	1.2	J	5.0	0.23	mg/L	-		06/13/18 21:44	1
Total Organic Carbon - Average	17	B	1.0	0.16	mg/L	-		06/26/18 01:55	1
Alkalinity	550	B	5.0	1.1	mg/L	-		06/22/18 00:21	1
Sulfide	6.4		1.0	0.50	mg/L	-		06/14/18 06:51	1
Ferrous Iron	0.32	HF	0.20	0.021	mg/L	-		06/14/18 04:38	1

**Client Sample ID: AFDV-134**

**Date Collected: 06/12/18 15:00**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-9**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.1	J	4.0	0.64	ug/L	-		06/26/18 15:31	4
1,1-Dichloroethane	49		4.0	0.88	ug/L	-		06/26/18 15:31	4
1,1-Dichloroethene	ND		4.0	0.92	ug/L	-		06/26/18 15:31	4
1,2-Dichloroethane	ND		4.0	0.52	ug/L	-		06/26/18 15:31	4
Methyl ethyl ketone (MEK)	ND		24	8.0	ug/L	-		06/26/18 15:31	4
Acetone	ND		40	7.6	ug/L	-		06/26/18 15:31	4
Benzene	21		4.0	0.64	ug/L	-		06/26/18 15:31	4
Chloroethane	1200	E	8.0	1.6	ug/L	-		06/26/18 15:31	4
cis-1,2-Dichloroethene	19		4.0	0.60	ug/L	-		06/26/18 15:31	4
Ethylbenzene	160		4.0	0.64	ug/L	-		06/26/18 15:31	4
Methylene Chloride	ND		8.0	1.3	ug/L	-		06/26/18 15:31	4
m-Xylene & p-Xylene	510	E	8.0	1.4	ug/L	-		06/26/18 15:31	4
o-Xylene	130		4.0	0.76	ug/L	-		06/26/18 15:31	4
Styrene	ND		4.0	0.68	ug/L	-		06/26/18 15:31	4
Tetrachloroethene	1.5	J	4.0	0.80	ug/L	-		06/26/18 15:31	4
Toluene	910	E	4.0	0.68	ug/L	-		06/26/18 15:31	4
trans-1,2-Dichloroethene	2.1	J	4.0	0.60	ug/L	-		06/26/18 15:31	4
Trichloroethene	ND		4.0	0.64	ug/L	-		06/26/18 15:31	4

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-134**

**Lab Sample ID: 280-110865-9**

**Date Collected: 06/12/18 15:00**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	73		4.0	0.40	ug/L			06/26/18 15:31	4
Xylenes, Total	640	E	8.0	0.76	ug/L			06/26/18 15:31	4

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127					06/26/18 15:31	4
4-Bromofluorobenzene (Surr)	88		78 - 120					06/26/18 15:31	4
Dibromofluoromethane (Surr)	113		77 - 120					06/26/18 15:31	4
Toluene-d8 (Surr)	95		80 - 125					06/26/18 15:31	4

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	1100		80	16	ug/L			06/26/18 15:53	40
m-Xylene & p-Xylene	470		80	14	ug/L			06/26/18 15:53	40
o-Xylene	130		40	7.6	ug/L			06/26/18 15:53	40
Toluene	800		40	6.8	ug/L			06/26/18 15:53	40
Xylenes, Total	600		80	7.6	ug/L			06/26/18 15:53	40

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 127					06/26/18 15:53	40
4-Bromofluorobenzene (Surr)	100		78 - 120					06/26/18 15:53	40
Dibromofluoromethane (Surr)	111		77 - 120					06/26/18 15:53	40
Toluene-d8 (Surr)	89		80 - 125					06/26/18 15:53	40

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4800	B	5.0	0.22	ug/L			06/23/18 12:43	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 12:43	1
Ethane	ND		5.0	0.57	ug/L			06/23/18 12:43	1

## Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	5600	H B	180	7.8	ug/L			06/27/18 16:09	36
Ethene	3100	H	180	14	ug/L			06/27/18 16:09	36
Ethane	5000	H	180	21	ug/L			06/27/18 16:09	36

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	66		3.0	0.25	mg/L			06/13/18 22:06	1
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 22:06	1
Sulfate	ND		5.0	0.23	mg/L			06/13/18 22:06	1
Total Organic Carbon - Average	5.7	B	1.0	0.16	mg/L			06/26/18 02:40	1
Alkalinity	490	B	5.0	1.1	mg/L			06/22/18 00:28	1
Sulfide	2.2		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	0.054	J HF	0.20	0.021	mg/L			06/14/18 04:38	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-132**

**Lab Sample ID: 280-110865-10**

**Date Collected: 06/12/18 15:10**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	36	J	40	6.4	ug/L			06/26/18 16:14	40
1,1-Dichloroethane	1100		40	8.8	ug/L			06/26/18 16:14	40
1,1-Dichloroethene	26	J	40	9.2	ug/L			06/26/18 16:14	40
1,2-Dichloroethane	ND		40	5.2	ug/L			06/26/18 16:14	40
Methyl ethyl ketone (MEK)	ND		240	80	ug/L			06/26/18 16:14	40
Acetone	ND		400	76	ug/L			06/26/18 16:14	40
Benzene	36	J	40	6.4	ug/L			06/26/18 16:14	40
Chloroethane	1400		80	16	ug/L			06/26/18 16:14	40
cis-1,2-Dichloroethene	1300		40	6.0	ug/L			06/26/18 16:14	40
Ethylbenzene	430		40	6.4	ug/L			06/26/18 16:14	40
Methylene Chloride	ND		80	13	ug/L			06/26/18 16:14	40
m-Xylene & p-Xylene	940		80	14	ug/L			06/26/18 16:14	40
o-Xylene	330		40	7.6	ug/L			06/26/18 16:14	40
Styrene	ND		40	6.8	ug/L			06/26/18 16:14	40
Tetrachloroethene	ND		40	8.0	ug/L			06/26/18 16:14	40
Toluene	9600	E	40	6.8	ug/L			06/26/18 16:14	40
trans-1,2-Dichloroethene	11	J	40	6.0	ug/L			06/26/18 16:14	40
Trichloroethene	ND		40	6.4	ug/L			06/26/18 16:14	40
Vinyl chloride	2400		40	4.0	ug/L			06/26/18 16:14	40
Xylenes, Total	1300		80	7.6	ug/L			06/26/18 16:14	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 127		06/26/18 16:14	40
4-Bromofluorobenzene (Surr)	89		78 - 120		06/26/18 16:14	40
Dibromofluoromethane (Surr)	110		77 - 120		06/26/18 16:14	40
Toluene-d8 (Surr)	97		80 - 125		06/26/18 16:14	40

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	8500		400	68	ug/L			06/26/18 16:36	400

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 127		06/26/18 16:36	400
4-Bromofluorobenzene (Surr)	94		78 - 120		06/26/18 16:36	400
Dibromofluoromethane (Surr)	111		77 - 120		06/26/18 16:36	400
Toluene-d8 (Surr)	94		80 - 125		06/26/18 16:36	400

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4800	B	5.0	0.22	ug/L			06/23/18 12:57	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 12:57	1
Ethane	2100	E	5.0	0.57	ug/L			06/23/18 12:57	1

## Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4900	H B	180	7.8	ug/L			06/27/18 16:23	36
Ethene	13000	H	180	14	ug/L			06/27/18 16:23	36
Ethane	2400	H	180	21	ug/L			06/27/18 16:23	36

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-132**

**Lab Sample ID: 280-110865-10**

**Date Collected: 06/12/18 15:10**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	260		6.0	0.51	mg/L			07/04/18 03:36	2
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 22:28	1
Sulfate	ND		5.0	0.23	mg/L			06/13/18 22:28	1
Total Organic Carbon - Average	13	B	1.0	0.16	mg/L			06/26/18 03:30	1
Alkalinity	540	B	5.0	1.1	mg/L			06/22/18 00:37	1
Sulfide	7.0		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	0.18	J HF	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-133**

**Lab Sample ID: 280-110865-11**

**Date Collected: 06/12/18 15:15**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	37	J	40	6.4	ug/L			06/26/18 16:58	40
1,1-Dichloroethane	1200		40	8.8	ug/L			06/26/18 16:58	40
1,1-Dichloroethene	26	J	40	9.2	ug/L			06/26/18 16:58	40
1,2-Dichloroethane	ND		40	5.2	ug/L			06/26/18 16:58	40
Methyl ethyl ketone (MEK)	ND		240	80	ug/L			06/26/18 16:58	40
Acetone	ND		400	76	ug/L			06/26/18 16:58	40
Benzene	37	J	40	6.4	ug/L			06/26/18 16:58	40
Chloroethane	1300		80	16	ug/L			06/26/18 16:58	40
cis-1,2-Dichloroethene	1300		40	6.0	ug/L			06/26/18 16:58	40
Ethylbenzene	470		40	6.4	ug/L			06/26/18 16:58	40
Methylene Chloride	ND		80	13	ug/L			06/26/18 16:58	40
m-Xylene & p-Xylene	980		80	14	ug/L			06/26/18 16:58	40
o-Xylene	340		40	7.6	ug/L			06/26/18 16:58	40
Styrene	ND		40	6.8	ug/L			06/26/18 16:58	40
Tetrachloroethene	ND		40	8.0	ug/L			06/26/18 16:58	40
Toluene	9900	E	40	6.8	ug/L			06/26/18 16:58	40
trans-1,2-Dichloroethene	11	J	40	6.0	ug/L			06/26/18 16:58	40
Trichloroethene	ND		40	6.4	ug/L			06/26/18 16:58	40
Vinyl chloride	2300		40	4.0	ug/L			06/26/18 16:58	40
Xylenes, Total	1300		80	7.6	ug/L			06/26/18 16:58	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 127		06/26/18 16:58	40
4-Bromofluorobenzene (Surr)	93		78 - 120		06/26/18 16:58	40
Dibromofluoromethane (Surr)	107		77 - 120		06/26/18 16:58	40
Toluene-d8 (Surr)	93		80 - 125		06/26/18 16:58	40

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	9000		400	68	ug/L			06/26/18 17:19	400

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/26/18 17:19	400
4-Bromofluorobenzene (Surr)	101		78 - 120		06/26/18 17:19	400
Dibromofluoromethane (Surr)	110		77 - 120		06/26/18 17:19	400
Toluene-d8 (Surr)	97		80 - 125		06/26/18 17:19	400

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-133**

**Lab Sample ID: 280-110865-11**

**Date Collected: 06/12/18 15:15**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	5000	B	5.0	0.22	ug/L			06/23/18 13:11	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 13:11	1
Ethane	2200	E	5.0	0.57	ug/L			06/23/18 13:11	1

## Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2200	H B	180	7.8	ug/L			06/27/18 16:37	36
Ethene	6400	H	180	14	ug/L			06/27/18 16:37	36
Ethane	1200	H	180	21	ug/L			06/27/18 16:37	36

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270		6.0	0.51	mg/L			07/04/18 03:59	2
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 22:50	1
Sulfate	0.90	J	5.0	0.23	mg/L			06/13/18 22:50	1
Total Organic Carbon - Average	13	B	1.0	0.16	mg/L			06/26/18 03:47	1
Alkalinity	540	B	5.0	1.1	mg/L			06/22/18 00:44	1
Sulfide	4.6		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	0.18	J HF	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-108**

**Lab Sample ID: 280-110865-12**

**Date Collected: 06/12/18 15:46**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 17:41	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 17:41	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 17:41	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 17:41	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 17:41	1
Acetone	ND		10	1.9	ug/L			06/26/18 17:41	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 17:41	1
Chloroethane	ND		2.0	0.41	ug/L			06/26/18 17:41	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 17:41	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 17:41	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 17:41	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 17:41	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 17:41	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 17:41	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 17:41	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 17:41	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 17:41	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 17:41	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 17:41	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/26/18 17:41	1
4-Bromofluorobenzene (Surr)	103		78 - 120		06/26/18 17:41	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-108**

**Date Collected: 06/12/18 15:46**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-12**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	108		77 - 120		06/26/18 17:41	1
Toluene-d8 (Surr)	90		80 - 125		06/26/18 17:41	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	12000	B	15	0.65	ug/L			06/23/18 13:52	3
Ethene	ND		15	1.2	ug/L			06/23/18 13:52	3
Ethane	8.3	J	15	1.7	ug/L			06/23/18 13:52	3

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34		15	1.3	mg/L			06/14/18 00:41	5
Nitrate as N	ND		2.5	0.21	mg/L			06/14/18 00:41	5
Sulfate	ND		25	1.2	mg/L			06/14/18 00:41	5
Total Organic Carbon - Average	9.8	B	1.0	0.16	mg/L			06/26/18 04:03	1
Alkalinity	570	B	5.0	1.1	mg/L			06/22/18 00:52	1
Sulfide	ND		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	1.1	HF	1.0	0.11	mg/L			06/14/18 04:38	5

**Client Sample ID: AFDV-116**

**Date Collected: 06/12/18 15:30**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-13**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 18:02	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 18:02	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 18:02	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 18:02	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 18:02	1
Acetone	ND		10	1.9	ug/L			06/26/18 18:02	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 18:02	1
Chloroethane	0.54	J	2.0	0.41	ug/L			06/26/18 18:02	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 18:02	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 18:02	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 18:02	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 18:02	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 18:02	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 18:02	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 18:02	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 18:02	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 18:02	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 18:02	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 18:02	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 127		06/26/18 18:02	1
4-Bromofluorobenzene (Surr)	94		78 - 120		06/26/18 18:02	1
Dibromofluoromethane (Surr)	109		77 - 120		06/26/18 18:02	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-116**

**Date Collected: 06/12/18 15:30**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-13**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	97		80 - 125		06/26/18 18:02	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	21000	E B	5.0	0.22	ug/L			06/23/18 13:24	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 13:24	1
Ethane	4.2	J	5.0	0.57	ug/L			06/23/18 13:24	1

## Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	8700	H B	15	0.65	ug/L			06/27/18 16:52	3
Ethene	ND	H	15	1.2	ug/L			06/27/18 16:52	3
Ethane	8.8	J H	15	1.7	ug/L			06/27/18 16:52	3

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	39		3.0	0.25	mg/L			06/14/18 00:19	1
Nitrate as N	ND		0.50	0.042	mg/L			06/14/18 00:19	1
Sulfate	ND		5.0	0.23	mg/L			06/14/18 00:19	1
Total Organic Carbon - Average	9.5	B	1.0	0.16	mg/L			06/26/18 04:20	1
Alkalinity	550	B	5.0	1.1	mg/L			06/22/18 01:00	1
Sulfide	ND		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	0.64	HF	0.40	0.042	mg/L			06/14/18 04:38	2

**Client Sample ID: AFDV-147**

**Date Collected: 06/12/18 16:33**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-14**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 18:24	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 18:24	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 18:24	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 18:24	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 18:24	1
Acetone	ND		10	1.9	ug/L			06/26/18 18:24	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 18:24	1
Chloroethane	ND		2.0	0.41	ug/L			06/26/18 18:24	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 18:24	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 18:24	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 18:24	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 18:24	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 18:24	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 18:24	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 18:24	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 18:24	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 18:24	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 18:24	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 18:24	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 18:24	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-147**

**Date Collected: 06/12/18 16:33**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-14**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/26/18 18:24	1
4-Bromofluorobenzene (Surr)	99		78 - 120		06/26/18 18:24	1
Dibromofluoromethane (Surr)	112		77 - 120		06/26/18 18:24	1
Toluene-d8 (Surr)	86		80 - 125		06/26/18 18:24	1

**Client Sample ID: AFDV-125**

**Date Collected: 06/12/18 09:55**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-15**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 18:45	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 18:45	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 18:45	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 18:45	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 18:45	1
Acetone	ND		10	1.9	ug/L			06/26/18 18:45	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 18:45	1
Chloroethane	ND		2.0	0.41	ug/L			06/26/18 18:45	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 18:45	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 18:45	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 18:45	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 18:45	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 18:45	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 18:45	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 18:45	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 18:45	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 18:45	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 18:45	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 18:45	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/26/18 18:45	1
4-Bromofluorobenzene (Surr)	94		78 - 120		06/26/18 18:45	1
Dibromofluoromethane (Surr)	112		77 - 120		06/26/18 18:45	1
Toluene-d8 (Surr)	94		80 - 125		06/26/18 18:45	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.61	J B	5.0	0.22	ug/L			06/23/18 13:38	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 13:38	1
Ethane	ND		5.0	0.57	ug/L			06/23/18 13:38	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		3.0	0.25	mg/L			06/13/18 16:55	1
Nitrate as N	2.8		0.50	0.042	mg/L			06/13/18 16:55	1
Sulfate	18		5.0	0.23	mg/L			06/13/18 16:55	1
Total Organic Carbon - Average	3.3	B	1.0	0.16	mg/L			06/26/18 06:13	1
Alkalinity	190	B	5.0	1.1	mg/L			06/22/18 01:06	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-125**

**Lab Sample ID: 280-110865-15**

**Date Collected: 06/12/18 09:55**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Sulfide</b>	<b>0.60</b>	<b>J</b>	1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-106**

**Lab Sample ID: 280-110865-16**

**Date Collected: 06/12/18 14:34**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1,1-Trichloroethane</b>	<b>20</b>		4.0	0.64	ug/L			06/26/18 19:07	4
<b>1,1-Dichloroethane</b>	<b>54</b>		4.0	0.88	ug/L			06/26/18 19:07	4
<b>1,1-Dichloroethene</b>	<b>6.6</b>		4.0	0.92	ug/L			06/26/18 19:07	4
1,2-Dichloroethane	ND		4.0	0.52	ug/L			06/26/18 19:07	4
Methyl ethyl ketone (MEK)	ND		24	8.0	ug/L			06/26/18 19:07	4
Acetone	ND		40	7.6	ug/L			06/26/18 19:07	4
Benzene	ND		4.0	0.64	ug/L			06/26/18 19:07	4
Chloroethane	ND		8.0	1.6	ug/L			06/26/18 19:07	4
<b>cis-1,2-Dichloroethene</b>	<b>1100</b>	<b>E</b>	4.0	0.60	ug/L			06/26/18 19:07	4
Ethylbenzene	ND		4.0	0.64	ug/L			06/26/18 19:07	4
Methylene Chloride	ND		8.0	1.3	ug/L			06/26/18 19:07	4
m-Xylene & p-Xylene	ND		8.0	1.4	ug/L			06/26/18 19:07	4
o-Xylene	ND		4.0	0.76	ug/L			06/26/18 19:07	4
Styrene	ND		4.0	0.68	ug/L			06/26/18 19:07	4
Tetrachloroethene	ND		4.0	0.80	ug/L			06/26/18 19:07	4
Toluene	ND		4.0	0.68	ug/L			06/26/18 19:07	4
<b>trans-1,2-Dichloroethene</b>	<b>2.7</b>	<b>J</b>	4.0	0.60	ug/L			06/26/18 19:07	4
<b>Trichloroethene</b>	<b>5.0</b>		4.0	0.64	ug/L			06/26/18 19:07	4
<b>Vinyl chloride</b>	<b>300</b>	<b>E</b>	4.0	0.40	ug/L			06/26/18 19:07	4
Xylenes, Total	ND		8.0	0.76	ug/L			06/26/18 19:07	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		06/26/18 19:07	4
4-Bromofluorobenzene (Surr)	92		78 - 120		06/26/18 19:07	4
Dibromofluoromethane (Surr)	114		77 - 120		06/26/18 19:07	4
Toluene-d8 (Surr)	92		80 - 125		06/26/18 19:07	4

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>1100</b>		40	6.0	ug/L			06/26/18 19:29	40
<b>Vinyl chloride</b>	<b>270</b>		40	4.0	ug/L			06/26/18 19:29	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 127		06/26/18 19:29	40
4-Bromofluorobenzene (Surr)	102		78 - 120		06/26/18 19:29	40
Dibromofluoromethane (Surr)	112		77 - 120		06/26/18 19:29	40
Toluene-d8 (Surr)	100		80 - 125		06/26/18 19:29	40

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>99</b>	<b>B</b>	5.0	0.22	ug/L			06/23/18 16:25	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 16:25	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-106**

**Date Collected: 06/12/18 14:34**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-16**

**Matrix: Water**

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	28		5.0	0.57	ug/L			06/23/18 16:25	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	33		3.0	0.25	mg/L			06/13/18 21:21	1
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 21:21	1
Sulfate	150		5.0	0.23	mg/L			06/13/18 21:21	1
Total Organic Carbon - Average	3.4	B	1.0	0.16	mg/L			06/26/18 06:32	1
Alkalinity	410	B	5.0	1.1	mg/L			06/22/18 01:13	1
Sulfide	ND		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-119**

**Date Collected: 06/12/18 11:35**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-17**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4400	H	100	16	ug/L			06/30/18 01:47	100
1,1-Dichloroethane	14000	H E	100	22	ug/L			06/30/18 01:47	100
1,1-Dichloroethene	990	H	100	23	ug/L			06/30/18 01:47	100
1,2-Dichloroethane	ND	H	100	13	ug/L			06/30/18 01:47	100
Methyl ethyl ketone (MEK)	ND	H	600	200	ug/L			06/30/18 01:47	100
Acetone	ND	H	1000	190	ug/L			06/30/18 01:47	100
Benzene	96	J H	100	16	ug/L			06/30/18 01:47	100
Chloroethane	ND	H	200	41	ug/L			06/30/18 01:47	100
cis-1,2-Dichloroethene	59000	H E	100	15	ug/L			06/30/18 01:47	100
Ethylbenzene	3800	H	100	16	ug/L			06/30/18 01:47	100
Methylene Chloride	37	J H	200	32	ug/L			06/30/18 01:47	100
m-Xylene & p-Xylene	12000	H E	200	34	ug/L			06/30/18 01:47	100
o-Xylene	4700	H	100	19	ug/L			06/30/18 01:47	100
Styrene	ND	H	100	17	ug/L			06/30/18 01:47	100
Tetrachloroethene	ND	H	100	20	ug/L			06/30/18 01:47	100
Toluene	190	H	100	17	ug/L			06/30/18 01:47	100
trans-1,2-Dichloroethene	130	H	100	15	ug/L			06/30/18 01:47	100
Trichloroethene	ND	H	100	16	ug/L			06/30/18 01:47	100
Vinyl chloride	28000	H E	100	10	ug/L			06/30/18 01:47	100
Xylenes, Total	17000	H	200	19	ug/L			06/30/18 01:47	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	133	X	70 - 127		06/30/18 01:47	100
4-Bromofluorobenzene (Surr)	109		78 - 120		06/30/18 01:47	100
Dibromofluoromethane (Surr)	126	X	77 - 120		06/30/18 01:47	100
Toluene-d8 (Surr)	113		80 - 125		06/30/18 01:47	100

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	14000	H	1000	220	ug/L			06/30/18 02:07	1000
cis-1,2-Dichloroethene	70000	H E	1000	150	ug/L			06/30/18 02:07	1000
m-Xylene & p-Xylene	12000	H	2000	340	ug/L			06/30/18 02:07	1000

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-119**

**Lab Sample ID: 280-110865-17**

**Date Collected: 06/12/18 11:35**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	4300	H	1000	190	ug/L			06/30/18 02:07	1000
Vinyl chloride	29000	H	1000	100	ug/L			06/30/18 02:07	1000
Xylenes, Total	16000	H	2000	190	ug/L			06/30/18 02:07	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		70 - 127		06/30/18 02:07	1000
4-Bromofluorobenzene (Surr)	104		78 - 120		06/30/18 02:07	1000
Dibromofluoromethane (Surr)	114		77 - 120		06/30/18 02:07	1000
Toluene-d8 (Surr)	106		80 - 125		06/30/18 02:07	1000

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	150	B	5.0	0.22	ug/L			06/23/18 16:39	1
Ethene	6400	E	5.0	0.40	ug/L			06/23/18 16:39	1
Ethane	29		5.0	0.57	ug/L			06/23/18 16:39	1

## Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	190	H B	90	3.9	ug/L			06/27/18 17:06	18
Ethene	7600	H	90	7.2	ug/L			06/27/18 17:06	18
Ethane	38	J H	90	10	ug/L			06/27/18 17:06	18

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310		15	1.3	mg/L			06/14/18 04:46	5
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 19:30	1
Sulfate	63		5.0	0.23	mg/L			06/13/18 19:30	1
Total Organic Carbon - Average	15	B	1.0	0.16	mg/L			06/26/18 05:10	1
Alkalinity	630	B	5.0	1.1	mg/L			06/22/18 01:43	1
Sulfide	27		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	1.2	HF	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-120**

**Lab Sample ID: 280-110865-18**

**Date Collected: 06/12/18 11:40**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	3900	H	200	32	ug/L			06/30/18 02:28	200
1,1-Dichloroethane	12000	H E	200	44	ug/L			06/30/18 02:28	200
1,1-Dichloroethene	880	H	200	46	ug/L			06/30/18 02:28	200
1,2-Dichloroethane	ND	H	200	26	ug/L			06/30/18 02:28	200
Methyl ethyl ketone (MEK)	ND	H	1200	400	ug/L			06/30/18 02:28	200
Acetone	ND	H	2000	380	ug/L			06/30/18 02:28	200
Benzene	89	J H	200	32	ug/L			06/30/18 02:28	200
Chloroethane	ND	H	400	82	ug/L			06/30/18 02:28	200
cis-1,2-Dichloroethene	61000	H E	200	30	ug/L			06/30/18 02:28	200
Ethylbenzene	3400	H	200	32	ug/L			06/30/18 02:28	200
Methylene Chloride	ND	H	400	64	ug/L			06/30/18 02:28	200
m-Xylene & p-Xylene	11000	H	400	68	ug/L			06/30/18 02:28	200
o-Xylene	4000	H	200	38	ug/L			06/30/18 02:28	200

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-120**

**Lab Sample ID: 280-110865-18**

**Date Collected: 06/12/18 11:40**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND	H	200	34	ug/L			06/30/18 02:28	200
Tetrachloroethene	ND	H	200	40	ug/L			06/30/18 02:28	200
<b>Toluene</b>	<b>25000</b>	<b>H E</b>	200	34	ug/L			06/30/18 02:28	200
<b>trans-1,2-Dichloroethene</b>	<b>120</b>	<b>J H</b>	200	30	ug/L			06/30/18 02:28	200
Trichloroethene	ND	H	200	32	ug/L			06/30/18 02:28	200
<b>Vinyl chloride</b>	<b>24000</b>	<b>H E</b>	200	20	ug/L			06/30/18 02:28	200
<b>Xylenes, Total</b>	<b>15000</b>	<b>H</b>	400	38	ug/L			06/30/18 02:28	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 127		06/30/18 02:28	200
4-Bromofluorobenzene (Surr)	92		78 - 120		06/30/18 02:28	200
Dibromofluoromethane (Surr)	105		77 - 120		06/30/18 02:28	200
Toluene-d8 (Surr)	95		80 - 125		06/30/18 02:28	200

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethane</b>	<b>18000</b>	<b>H</b>	2000	440	ug/L			06/30/18 02:49	2000
<b>cis-1,2-Dichloroethene</b>	<b>86000</b>	<b>H</b>	2000	300	ug/L			06/30/18 02:49	2000
<b>Toluene</b>	<b>44000</b>	<b>H</b>	2000	340	ug/L			06/30/18 02:49	2000
<b>Vinyl chloride</b>	<b>36000</b>	<b>H</b>	2000	200	ug/L			06/30/18 02:49	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		70 - 127		06/30/18 02:49	2000
4-Bromofluorobenzene (Surr)	108		78 - 120		06/30/18 02:49	2000
Dibromofluoromethane (Surr)	121	X	77 - 120		06/30/18 02:49	2000
Toluene-d8 (Surr)	114		80 - 125		06/30/18 02:49	2000

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>200</b>	<b>B</b>	5.0	0.22	ug/L			06/23/18 16:53	1
<b>Ethene</b>	<b>6800</b>	<b>E</b>	5.0	0.40	ug/L			06/23/18 16:53	1
<b>Ethane</b>	<b>31</b>		5.0	0.57	ug/L			06/23/18 16:53	1

## Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>210</b>	<b>H B</b>	90	3.9	ug/L			06/27/18 17:20	18
<b>Ethene</b>	<b>7700</b>	<b>H</b>	90	7.2	ug/L			06/27/18 17:20	18
<b>Ethane</b>	<b>39</b>	<b>J H</b>	90	10	ug/L			06/27/18 17:20	18

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>310</b>		15	1.3	mg/L			06/14/18 05:08	5
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 19:53	1
<b>Sulfate</b>	<b>69</b>		5.0	0.23	mg/L			06/13/18 19:53	1
<b>Total Organic Carbon - Average</b>	<b>14</b>	<b>B</b>	1.0	0.16	mg/L			06/26/18 05:59	1
<b>Alkalinity</b>	<b>640</b>	<b>B</b>	5.0	1.1	mg/L			06/22/18 01:59	1
<b>Sulfide</b>	<b>3.0</b>		1.0	0.50	mg/L			06/14/18 06:51	1
<b>Ferrous Iron</b>	<b>1.2</b>	<b>HF</b>	0.20	0.021	mg/L			06/14/18 04:38	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-110**

**Lab Sample ID: 280-110865-19**

**Date Collected: 06/12/18 14:20**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	H	2.0	0.32	ug/L			06/30/18 03:10	2
<b>1,1-Dichloroethane</b>	<b>150</b>	<b>H E</b>	2.0	0.44	ug/L			06/30/18 03:10	2
<b>1,1-Dichloroethene</b>	<b>10</b>	<b>H</b>	2.0	0.46	ug/L			06/30/18 03:10	2
<b>1,2-Dichloroethane</b>	<b>1.8</b>	<b>J H</b>	2.0	0.26	ug/L			06/30/18 03:10	2
Methyl ethyl ketone (MEK)	ND	H	12	4.0	ug/L			06/30/18 03:10	2
Acetone	ND	H	20	3.8	ug/L			06/30/18 03:10	2
Benzene	ND	H	2.0	0.32	ug/L			06/30/18 03:10	2
Chloroethane	ND	H	4.0	0.82	ug/L			06/30/18 03:10	2
<b>cis-1,2-Dichloroethene</b>	<b>380</b>	<b>H E</b>	2.0	0.30	ug/L			06/30/18 03:10	2
Ethylbenzene	ND	H	2.0	0.32	ug/L			06/30/18 03:10	2
Methylene Chloride	ND	H	4.0	0.64	ug/L			06/30/18 03:10	2
m-Xylene & p-Xylene	ND	H	4.0	0.68	ug/L			06/30/18 03:10	2
o-Xylene	ND	H	2.0	0.38	ug/L			06/30/18 03:10	2
Styrene	ND	H	2.0	0.34	ug/L			06/30/18 03:10	2
Tetrachloroethene	ND	H	2.0	0.40	ug/L			06/30/18 03:10	2
Toluene	ND	H	2.0	0.34	ug/L			06/30/18 03:10	2
<b>trans-1,2-Dichloroethene</b>	<b>2.1</b>	<b>H</b>	2.0	0.30	ug/L			06/30/18 03:10	2
Trichloroethene	ND	H	2.0	0.32	ug/L			06/30/18 03:10	2
<b>Vinyl chloride</b>	<b>170</b>	<b>H E</b>	2.0	0.20	ug/L			06/30/18 03:10	2
Xylenes, Total	ND	H	4.0	0.38	ug/L			06/30/18 03:10	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	131	X	70 - 127		06/30/18 03:10	2
4-Bromofluorobenzene (Surr)	110		78 - 120		06/30/18 03:10	2
Dibromofluoromethane (Surr)	124	X	77 - 120		06/30/18 03:10	2
Toluene-d8 (Surr)	116		80 - 125		06/30/18 03:10	2

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethane</b>	<b>170</b>	<b>H</b>	20	4.4	ug/L			06/30/18 03:31	20
<b>cis-1,2-Dichloroethene</b>	<b>430</b>	<b>H</b>	20	3.0	ug/L			06/30/18 03:31	20
<b>Vinyl chloride</b>	<b>200</b>	<b>H</b>	20	2.0	ug/L			06/30/18 03:31	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 127		06/30/18 03:31	20
4-Bromofluorobenzene (Surr)	92		78 - 120		06/30/18 03:31	20
Dibromofluoromethane (Surr)	102		77 - 120		06/30/18 03:31	20
Toluene-d8 (Surr)	97		80 - 125		06/30/18 03:31	20

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>170</b>	<b>B</b>	5.0	0.22	ug/L			06/23/18 17:07	1
<b>Ethene</b>	<b>95</b>		5.0	0.40	ug/L			06/23/18 17:07	1
<b>Ethane</b>	<b>3.0</b>	<b>J</b>	5.0	0.57	ug/L			06/23/18 17:07	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>120</b>		3.0	0.25	mg/L			06/13/18 20:15	1
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 20:15	1
<b>Sulfate</b>	<b>70</b>		5.0	0.23	mg/L			06/13/18 20:15	1
<b>Total Organic Carbon - Average</b>	<b>2.2</b>	<b>B</b>	1.0	0.16	mg/L			06/26/18 06:51	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-110**

**Lab Sample ID: 280-110865-19**

**Date Collected: 06/12/18 14:20**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	340	B	5.0	1.1	mg/L			06/22/18 02:06	1
Sulfide	0.60	J	1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/14/18 04:38	1

**Client Sample ID: AFDV-148**

**Lab Sample ID: 280-110865-20**

**Date Collected: 06/12/18 16:34**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	H	1.0	0.16	ug/L			06/30/18 03:51	1
1,1-Dichloroethane	ND	H	1.0	0.22	ug/L			06/30/18 03:51	1
1,1-Dichloroethene	ND	H	1.0	0.23	ug/L			06/30/18 03:51	1
1,2-Dichloroethane	ND	H	1.0	0.13	ug/L			06/30/18 03:51	1
Methyl ethyl ketone (MEK)	ND	H	6.0	2.0	ug/L			06/30/18 03:51	1
Acetone	ND	H	10	1.9	ug/L			06/30/18 03:51	1
Benzene	ND	H	1.0	0.16	ug/L			06/30/18 03:51	1
Chloroethane	ND	H	2.0	0.41	ug/L			06/30/18 03:51	1
cis-1,2-Dichloroethene	ND	H	1.0	0.15	ug/L			06/30/18 03:51	1
Ethylbenzene	ND	H	1.0	0.16	ug/L			06/30/18 03:51	1
Methylene Chloride	ND	H	2.0	0.32	ug/L			06/30/18 03:51	1
m-Xylene & p-Xylene	ND	H	2.0	0.34	ug/L			06/30/18 03:51	1
o-Xylene	ND	H	1.0	0.19	ug/L			06/30/18 03:51	1
Styrene	ND	H	1.0	0.17	ug/L			06/30/18 03:51	1
Tetrachloroethene	ND	H	1.0	0.20	ug/L			06/30/18 03:51	1
Toluene	ND	H	1.0	0.17	ug/L			06/30/18 03:51	1
trans-1,2-Dichloroethene	ND	H	1.0	0.15	ug/L			06/30/18 03:51	1
Trichloroethene	ND	H	1.0	0.16	ug/L			06/30/18 03:51	1
Vinyl chloride	ND	H	1.0	0.10	ug/L			06/30/18 03:51	1
Xylenes, Total	ND	H	2.0	0.19	ug/L			06/30/18 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		06/30/18 03:51	1
4-Bromofluorobenzene (Surr)	89		78 - 120		06/30/18 03:51	1
Dibromofluoromethane (Surr)	101		77 - 120		06/30/18 03:51	1
Toluene-d8 (Surr)	94		80 - 125		06/30/18 03:51	1

**Client Sample ID: AFDV-145**

**Lab Sample ID: 280-110865-21**

**Date Collected: 06/12/18 16:45**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	H	1.0	0.16	ug/L			07/04/18 20:07	1
1,1-Dichloroethane	ND	H	1.0	0.22	ug/L			07/04/18 20:07	1
1,1-Dichloroethene	ND	H	1.0	0.23	ug/L			07/04/18 20:07	1
1,2-Dichloroethane	ND	H	1.0	0.13	ug/L			07/04/18 20:07	1
Methyl ethyl ketone (MEK)	ND	H	6.0	2.0	ug/L			07/04/18 20:07	1
Acetone	ND	H	10	1.9	ug/L			07/04/18 20:07	1
Benzene	ND	H	1.0	0.16	ug/L			07/04/18 20:07	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-145**

**Lab Sample ID: 280-110865-21**

**Date Collected: 06/12/18 16:45**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND	H	2.0	0.41	ug/L			07/04/18 20:07	1
cis-1,2-Dichloroethene	ND	H	1.0	0.15	ug/L			07/04/18 20:07	1
Ethylbenzene	ND	H	1.0	0.16	ug/L			07/04/18 20:07	1
Methylene Chloride	ND	H	2.0	0.32	ug/L			07/04/18 20:07	1
<b>m-Xylene &amp; p-Xylene</b>	<b>0.46</b>	<b>J H</b>	2.0	0.34	ug/L			07/04/18 20:07	1
<b>o-Xylene</b>	<b>0.20</b>	<b>J H</b>	1.0	0.19	ug/L			07/04/18 20:07	1
<b>Styrene</b>	<b>0.56</b>	<b>J H</b>	1.0	0.17	ug/L			07/04/18 20:07	1
Tetrachloroethene	ND	H	1.0	0.20	ug/L			07/04/18 20:07	1
<b>Toluene</b>	<b>0.29</b>	<b>J H</b>	1.0	0.17	ug/L			07/04/18 20:07	1
trans-1,2-Dichloroethene	ND	H	1.0	0.15	ug/L			07/04/18 20:07	1
Trichloroethene	ND	H	1.0	0.16	ug/L			07/04/18 20:07	1
Vinyl chloride	ND	H	1.0	0.10	ug/L			07/04/18 20:07	1
<b>Xylenes, Total</b>	<b>0.66</b>	<b>J H</b>	2.0	0.19	ug/L			07/04/18 20:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 127		07/04/18 20:07	1
4-Bromofluorobenzene (Surr)	97		78 - 120		07/04/18 20:07	1
Dibromofluoromethane (Surr)	97		77 - 120		07/04/18 20:07	1
Toluene-d8 (Surr)	80		80 - 125		07/04/18 20:07	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>0.63</b>	<b>J B</b>	5.0	0.22	ug/L			06/23/18 17:21	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 17:21	1
Ethane	ND		5.0	0.57	ug/L			06/23/18 17:21	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			06/14/18 01:48	1
<b>Nitrate as N</b>	<b>0.043</b>	<b>J</b>	0.50	0.042	mg/L			06/14/18 01:48	1
Sulfate	ND		5.0	0.23	mg/L			06/14/18 01:48	1
<b>Total Organic Carbon - Average</b>	<b>0.38</b>	<b>J B</b>	1.0	0.16	mg/L			06/26/18 07:06	1
<b>Alkalinity</b>	<b>3.9</b>	<b>J B</b>	5.0	1.1	mg/L			06/22/18 02:12	1
Sulfide	ND		1.0	0.50	mg/L			06/14/18 06:51	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/14/18 04:38	1



# Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	RL	MDL	Units	Method
1,1,1-Trichloroethane	1.0	0.16	ug/L	8260B
1,1-Dichloroethane	1.0	0.22	ug/L	8260B
1,1-Dichloroethene	1.0	0.23	ug/L	8260B
1,2-Dichloroethane	1.0	0.13	ug/L	8260B
Acetone	10	1.9	ug/L	8260B
Benzene	1.0	0.16	ug/L	8260B
Chloroethane	2.0	0.41	ug/L	8260B
cis-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Ethylbenzene	1.0	0.16	ug/L	8260B
Methyl ethyl ketone (MEK)	6.0	2.0	ug/L	8260B
Methylene Chloride	2.0	0.32	ug/L	8260B
m-Xylene & p-Xylene	2.0	0.34	ug/L	8260B
o-Xylene	1.0	0.19	ug/L	8260B
Styrene	1.0	0.17	ug/L	8260B
Tetrachloroethene	1.0	0.20	ug/L	8260B
Toluene	1.0	0.17	ug/L	8260B
trans-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Trichloroethene	1.0	0.16	ug/L	8260B
Vinyl chloride	1.0	0.10	ug/L	8260B
Xylenes, Total	2.0	0.19	ug/L	8260B

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	RL	MDL	Units	Method
Ethane	5.0	0.57	ug/L	RSK-175
Ethene	5.0	0.40	ug/L	RSK-175
Methane	5.0	0.22	ug/L	RSK-175

## General Chemistry

Analyte	RL	MDL	Units	Method
Chloride	3.0	0.25	mg/L	300.0
Nitrate as N	0.50	0.042	mg/L	300.0
Sulfate	5.0	0.23	mg/L	300.0
Total Organic Carbon - Average	1.0	0.16	mg/L	9060
Alkalinity	5.0	1.1	mg/L	SM 2320B
Sulfide	1.0	0.50	mg/L	SM 4500 S2 F
Ferrous Iron	0.20	0.021	mg/L	SM3500_FE_D



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
280-110720-D-1 MS	Matrix Spike	119	99	112	105
280-110720-D-1 MSD	Matrix Spike Duplicate	107	90	102	95
280-110865-1	AFDV-126	90	93	109	96
280-110865-1 - DL	AFDV-126	86	104	100	98
280-110865-1 MS	AFDV-126	93	93	105	103
280-110865-1 MSD	AFDV-126	96	103	110	107
280-110865-2	AFDV-127	94	94	110	98
280-110865-3	AFDV-128	95	103	110	96
280-110865-3 - DL	AFDV-128	92	101	108	95
280-110865-4	AFDV-129	95	102	110	99
280-110865-5	AFDV-118	93	100	107	95
280-110865-6	AFDV-124	94	103	110	97
280-110865-7	AFDV-146	91	103	109	96
280-110865-8	AFDV-131	88	92	108	98
280-110865-8 - DL	AFDV-131	89	90	113	96
280-110865-9	AFDV-134	94	88	113	95
280-110865-9 - DL	AFDV-134	91	100	111	89
280-110865-10	AFDV-132	89	89	110	97
280-110865-10 - DL	AFDV-132	92	94	111	94
280-110865-11	AFDV-133	87	93	107	93
280-110865-11 - DL	AFDV-133	93	101	110	97
280-110865-12	AFDV-108	93	103	108	90
280-110865-13	AFDV-116	84	94	109	97
280-110865-14	AFDV-147	93	99	112	86
280-110865-15	AFDV-125	93	94	112	94
280-110865-16	AFDV-106	95	92	114	92
280-110865-16 - DL	AFDV-106	94	102	112	100
280-110865-17	AFDV-119	133 X	109	126 X	113
280-110865-17 - DL	AFDV-119	120	104	114	106
280-110865-18	AFDV-120	109	92	105	95
280-110865-18 - DL	AFDV-120	125	108	121 X	114
280-110865-19	AFDV-110	131 X	110	124 X	116
280-110865-19 - DL	AFDV-110	111	92	102	97
280-110865-20	AFDV-148	105	89	101	94
280-110865-21	AFDV-145	106	97	97	80
280-111289-C-6 MS	Matrix Spike	134 X	110	87	82
280-111289-C-6 MSD	Matrix Spike Duplicate	129 X	107	84	80
LCS 280-420036/4	Lab Control Sample	92	88	110	106
LCS 280-420653/4	Lab Control Sample	102	88	97	94
LCS 280-421081/4	Lab Control Sample	99	98	93	83
LCSD 280-421081/5	Lab Control Sample Dup	104	102	96	84
MB 280-420036/6	Method Blank	90	93	113	91
MB 280-420653/6	Method Blank	104	91	102	98
MB 280-421081/6	Method Blank	102	95	96	82

## Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

 TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-420036/6

Matrix: Water

Analysis Batch: 420036

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/26/18 10:04	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/26/18 10:04	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/26/18 10:04	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/26/18 10:04	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/26/18 10:04	1
Acetone	ND		10	1.9	ug/L			06/26/18 10:04	1
Benzene	ND		1.0	0.16	ug/L			06/26/18 10:04	1
Chloroethane	ND		2.0	0.41	ug/L			06/26/18 10:04	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 10:04	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/26/18 10:04	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/26/18 10:04	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/26/18 10:04	1
o-Xylene	ND		1.0	0.19	ug/L			06/26/18 10:04	1
Styrene	ND		1.0	0.17	ug/L			06/26/18 10:04	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/26/18 10:04	1
Toluene	ND		1.0	0.17	ug/L			06/26/18 10:04	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/26/18 10:04	1
Trichloroethene	ND		1.0	0.16	ug/L			06/26/18 10:04	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/26/18 10:04	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/26/18 10:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 127		06/26/18 10:04	1
4-Bromofluorobenzene (Surr)	93		78 - 120		06/26/18 10:04	1
Dibromofluoromethane (Surr)	113		77 - 120		06/26/18 10:04	1
Toluene-d8 (Surr)	91		80 - 125		06/26/18 10:04	1

Lab Sample ID: LCS 280-420036/4

Matrix: Water

Analysis Batch: 420036

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.30		ug/L		106	65 - 135
1,1-Dichloroethane	5.00	4.75		ug/L		95	65 - 135
1,1-Dichloroethene	5.00	5.95		ug/L		119	65 - 136
1,2-Dichloroethane	5.00	4.80		ug/L		96	65 - 135
Methyl ethyl ketone (MEK)	20.0	21.0		ug/L		105	44 - 177
Acetone	20.0	20.4		ug/L		102	39 - 156
Benzene	5.00	5.35		ug/L		107	65 - 135
Chloroethane	5.00	5.53		ug/L		111	46 - 136
cis-1,2-Dichloroethene	5.00	5.66		ug/L		113	65 - 135
Ethylbenzene	5.00	4.92		ug/L		98	65 - 135
Methylene Chloride	5.00	5.70		ug/L		114	54 - 141
m-Xylene & p-Xylene	5.00	4.67		ug/L		93	65 - 135
o-Xylene	5.00	4.94		ug/L		99	65 - 135
Styrene	5.00	4.96		ug/L		99	65 - 135
Tetrachloroethene	5.00	5.64		ug/L		113	65 - 135
Toluene	5.00	5.48		ug/L		110	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-420036/4

Matrix: Water

Analysis Batch: 420036

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	5.41		ug/L		108	65 - 135
Trichloroethene	5.00	5.26		ug/L		105	65 - 135
Vinyl chloride	5.00	4.47		ug/L		89	40 - 137
Xylenes, Total	10.0	9.61		ug/L		96	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 127
4-Bromofluorobenzene (Surr)	88		78 - 120
Dibromofluoromethane (Surr)	110		77 - 120
Toluene-d8 (Surr)	106		80 - 125

Lab Sample ID: 280-110865-1 MS

Matrix: Water

Analysis Batch: 420036

Client Sample ID: AFDV-126

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	1200		1000	2130		ug/L		97	65 - 135
1,1-Dichloroethane	3000	F1	1000	3340	F1	ug/L		37	65 - 135
1,1-Dichloroethene	530		1000	1650		ug/L		111	65 - 136
1,2-Dichloroethane	ND		1000	961		ug/L		96	65 - 135
Methyl ethyl ketone (MEK)	ND		4000	3250		ug/L		81	44 - 177
Acetone	ND		4000	4050		ug/L		101	39 - 156
Benzene	33	J	1000	1100		ug/L		107	65 - 135
Chloroethane	ND		1000	1170		ug/L		117	46 - 136
cis-1,2-Dichloroethene	56000	E	1000	47500	E 4	ug/L		-867	65 - 135
Ethylbenzene	1500		1000	2530		ug/L		108	65 - 135
Methylene Chloride	72	J	1000	1140		ug/L		107	54 - 141
m-Xylene & p-Xylene	680		1000	1780		ug/L		110	65 - 135
o-Xylene	440		1000	1520		ug/L		108	65 - 135
Styrene	ND		1000	1040		ug/L		104	65 - 135
Tetrachloroethene	ND		1000	1070		ug/L		107	65 - 135
Toluene	1700		1000	2660		ug/L		98	65 - 135
trans-1,2-Dichloroethene	45	J	1000	1210		ug/L		117	65 - 135
Trichloroethene	ND		1000	1050		ug/L		105	65 - 135
Vinyl chloride	17000	E	1000	16500	E 4	ug/L		-22	40 - 137
Xylenes, Total	1100		2000	3300		ug/L		109	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 127
4-Bromofluorobenzene (Surr)	93		78 - 120
Dibromofluoromethane (Surr)	105		77 - 120
Toluene-d8 (Surr)	103		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-110865-1 MSD

Matrix: Water

Analysis Batch: 420036

Client Sample ID: AFDV-126

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1200		1000	2280		ug/L		112	65 - 135	6	20
1,1-Dichloroethane	3000	F1	1000	3960		ug/L		99	65 - 135	17	21
1,1-Dichloroethene	530		1000	1770		ug/L		124	65 - 136	7	20
1,2-Dichloroethane	ND		1000	1010		ug/L		101	65 - 135	5	20
Methyl ethyl ketone (MEK)	ND		4000	3850		ug/L		96	44 - 177	17	32
Acetone	ND		4000	4320		ug/L		108	39 - 156	6	23
Benzene	33	J	1000	1170		ug/L		114	65 - 135	7	20
Chloroethane	ND		1000	1170		ug/L		117	46 - 136	0	25
cis-1,2-Dichloroethene	56000	E	1000	55000	E 4	ug/L		-119	65 - 135	15	20
Ethylbenzene	1500		1000	2660		ug/L		121	65 - 135	5	20
Methylene Chloride	72	J	1000	1230		ug/L		116	54 - 141	8	26
m-Xylene & p-Xylene	680		1000	1890		ug/L		121	65 - 135	6	20
o-Xylene	440		1000	1620		ug/L		119	65 - 135	7	20
Styrene	ND		1000	1100		ug/L		110	65 - 135	6	26
Tetrachloroethene	ND		1000	1140		ug/L		114	65 - 135	7	20
Toluene	1700		1000	2800		ug/L		112	65 - 135	5	20
trans-1,2-Dichloroethene	45	J	1000	1290		ug/L		124	65 - 135	6	24
Trichloroethene	ND		1000	1130		ug/L		113	65 - 135	7	20
Vinyl chloride	17000	E	1000	17400	E 4	ug/L		67	40 - 137	5	24
Xylenes, Total	1100		2000	3510		ug/L		120	65 - 135	6	20
<b>MSD MSD</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	96		70 - 127								
4-Bromofluorobenzene (Surr)	103		78 - 120								
Dibromofluoromethane (Surr)	110		77 - 120								
Toluene-d8 (Surr)	107		80 - 125								

Lab Sample ID: MB 280-420653/6

Matrix: Water

Analysis Batch: 420653

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/29/18 21:50	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/29/18 21:50	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/29/18 21:50	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/29/18 21:50	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/29/18 21:50	1
Acetone	ND		10	1.9	ug/L			06/29/18 21:50	1
Benzene	ND		1.0	0.16	ug/L			06/29/18 21:50	1
Chloroethane	ND		2.0	0.41	ug/L			06/29/18 21:50	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/29/18 21:50	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/29/18 21:50	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/29/18 21:50	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/29/18 21:50	1
o-Xylene	ND		1.0	0.19	ug/L			06/29/18 21:50	1
Styrene	ND		1.0	0.17	ug/L			06/29/18 21:50	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/29/18 21:50	1
Toluene	ND		1.0	0.17	ug/L			06/29/18 21:50	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-420653/6

Matrix: Water

Analysis Batch: 420653

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/29/18 21:50	1
Trichloroethene	ND		1.0	0.16	ug/L			06/29/18 21:50	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/29/18 21:50	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/29/18 21:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 127		06/29/18 21:50	1
4-Bromofluorobenzene (Surr)	91		78 - 120		06/29/18 21:50	1
Dibromofluoromethane (Surr)	102		77 - 120		06/29/18 21:50	1
Toluene-d8 (Surr)	98		80 - 125		06/29/18 21:50	1

Lab Sample ID: LCS 280-420653/4

Matrix: Water

Analysis Batch: 420653

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.37		ug/L		107	65 - 135
1,1-Dichloroethane	5.00	4.80		ug/L		96	65 - 135
1,1-Dichloroethene	5.00	4.77		ug/L		95	65 - 136
1,2-Dichloroethane	5.00	5.78		ug/L		116	65 - 135
Methyl ethyl ketone (MEK)	20.0	22.1		ug/L		110	44 - 177
Acetone	20.0	20.7		ug/L		103	39 - 156
Benzene	5.00	4.79		ug/L		96	65 - 135
Chloroethane	5.00	4.80		ug/L		96	46 - 136
cis-1,2-Dichloroethene	5.00	4.77		ug/L		95	65 - 135
Ethylbenzene	5.00	4.42		ug/L		88	65 - 135
Methylene Chloride	5.00	4.99		ug/L		100	54 - 141
m-Xylene & p-Xylene	5.00	4.35		ug/L		87	65 - 135
o-Xylene	5.00	4.39		ug/L		88	65 - 135
Styrene	5.00	4.10		ug/L		82	65 - 135
Tetrachloroethene	5.00	4.72		ug/L		94	65 - 135
Toluene	5.00	4.84		ug/L		97	65 - 135
trans-1,2-Dichloroethene	5.00	4.94		ug/L		99	65 - 135
Trichloroethene	5.00	5.08		ug/L		102	65 - 135
Vinyl chloride	5.00	4.58		ug/L		92	40 - 137
Xylenes, Total	10.0	8.74		ug/L		87	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 127
4-Bromofluorobenzene (Surr)	88		78 - 120
Dibromofluoromethane (Surr)	97		77 - 120
Toluene-d8 (Surr)	94		80 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-110720-D-1 MS

Matrix: Water

Analysis Batch: 420653

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	6.19		ug/L		124	65 - 135
1,1-Dichloroethane	ND		5.00	5.27		ug/L		105	65 - 135
1,1-Dichloroethene	ND		5.00	5.21		ug/L		104	65 - 136
1,2-Dichloroethane	ND		5.00	6.44		ug/L		129	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	23.1		ug/L		116	44 - 177
Acetone	ND		20.0	24.3		ug/L		122	39 - 156
Benzene	ND		5.00	5.06		ug/L		101	65 - 135
Chloroethane	ND		5.00	5.02		ug/L		100	46 - 136
cis-1,2-Dichloroethene	ND		5.00	5.31		ug/L		106	65 - 135
Ethylbenzene	ND		5.00	4.75		ug/L		95	65 - 135
Methylene Chloride	ND		5.00	5.24		ug/L		105	54 - 141
m-Xylene & p-Xylene	ND		5.00	4.75		ug/L		95	65 - 135
o-Xylene	ND		5.00	4.59		ug/L		92	65 - 135
Styrene	ND		5.00	4.42		ug/L		88	65 - 135
Tetrachloroethene	ND		5.00	4.89		ug/L		98	65 - 135
Toluene	ND		5.00	5.12		ug/L		102	65 - 135
trans-1,2-Dichloroethene	ND		5.00	5.23		ug/L		105	65 - 135
Trichloroethene	6.8		5.00	10.9		ug/L		84	65 - 135
Vinyl chloride	ND		5.00	4.61		ug/L		92	40 - 137
Xylenes, Total	ND		10.0	9.34		ug/L		93	65 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	119		70 - 127						
4-Bromofluorobenzene (Surr)	99		78 - 120						
Dibromofluoromethane (Surr)	112		77 - 120						
Toluene-d8 (Surr)	105		80 - 125						

Lab Sample ID: 280-110720-D-1 MSD

Matrix: Water

Analysis Batch: 420653

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	5.89		ug/L		118	65 - 135	5	20
1,1-Dichloroethane	ND		5.00	5.12		ug/L		102	65 - 135	3	21
1,1-Dichloroethene	ND		5.00	4.90		ug/L		98	65 - 136	6	20
1,2-Dichloroethane	ND		5.00	6.33		ug/L		127	65 - 135	2	20
Methyl ethyl ketone (MEK)	ND		20.0	23.6		ug/L		118	44 - 177	2	32
Acetone	ND		20.0	25.8		ug/L		129	39 - 156	6	23
Benzene	ND		5.00	4.99		ug/L		100	65 - 135	1	20
Chloroethane	ND		5.00	4.80		ug/L		96	46 - 136	5	25
cis-1,2-Dichloroethene	ND		5.00	5.15		ug/L		103	65 - 135	3	20
Ethylbenzene	ND		5.00	4.54		ug/L		91	65 - 135	4	20
Methylene Chloride	ND		5.00	5.09		ug/L		102	54 - 141	3	26
m-Xylene & p-Xylene	ND		5.00	4.62		ug/L		92	65 - 135	3	20
o-Xylene	ND		5.00	4.56		ug/L		91	65 - 135	1	20
Styrene	ND		5.00	4.31		ug/L		86	65 - 135	2	26
Tetrachloroethene	ND		5.00	4.79		ug/L		96	65 - 135	2	20
Toluene	ND		5.00	5.04		ug/L		101	65 - 135	2	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-110720-D-1 MSD

Matrix: Water

Analysis Batch: 420653

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND		5.00	5.00		ug/L		100	65 - 135	4	24
Trichloroethene	6.8		5.00	10.6		ug/L		77	65 - 135	3	20
Vinyl chloride	ND		5.00	4.65		ug/L		93	40 - 137	1	24
Xylenes, Total	ND		10.0	9.18		ug/L		92	65 - 135	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		70 - 127
4-Bromofluorobenzene (Surr)	90		78 - 120
Dibromofluoromethane (Surr)	102		77 - 120
Toluene-d8 (Surr)	95		80 - 125

Lab Sample ID: MB 280-421081/6

Matrix: Water

Analysis Batch: 421081

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/04/18 11:04	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/04/18 11:04	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/04/18 11:04	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/04/18 11:04	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/04/18 11:04	1
Acetone	ND		10	1.9	ug/L			07/04/18 11:04	1
Benzene	ND		1.0	0.16	ug/L			07/04/18 11:04	1
Chloroethane	ND		2.0	0.41	ug/L			07/04/18 11:04	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/04/18 11:04	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/04/18 11:04	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/04/18 11:04	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/04/18 11:04	1
o-Xylene	ND		1.0	0.19	ug/L			07/04/18 11:04	1
Styrene	ND		1.0	0.17	ug/L			07/04/18 11:04	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/04/18 11:04	1
Toluene	ND		1.0	0.17	ug/L			07/04/18 11:04	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/04/18 11:04	1
Trichloroethene	ND		1.0	0.16	ug/L			07/04/18 11:04	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/04/18 11:04	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/04/18 11:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 127		07/04/18 11:04	1
4-Bromofluorobenzene (Surr)	95		78 - 120		07/04/18 11:04	1
Dibromofluoromethane (Surr)	96		77 - 120		07/04/18 11:04	1
Toluene-d8 (Surr)	82		80 - 125		07/04/18 11:04	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-421081/4

Matrix: Water

Analysis Batch: 421081

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	4.79		ug/L		96	65 - 135
1,1-Dichloroethane	5.00	4.66		ug/L		93	65 - 135
1,1-Dichloroethene	5.00	4.30		ug/L		86	65 - 136
1,2-Dichloroethane	5.00	4.02		ug/L		80	65 - 135
Methyl ethyl ketone (MEK)	20.0	13.3		ug/L		66	44 - 177
Acetone	20.0	13.6		ug/L		68	39 - 156
Benzene	5.00	4.06		ug/L		81	65 - 135
Chloroethane	5.00	4.59		ug/L		92	46 - 136
cis-1,2-Dichloroethene	5.00	4.27		ug/L		85	65 - 135
Ethylbenzene	5.00	4.66		ug/L		93	65 - 135
Methylene Chloride	5.00	4.33		ug/L		87	54 - 141
m-Xylene & p-Xylene	5.00	4.85		ug/L		97	65 - 135
o-Xylene	5.00	4.61		ug/L		92	65 - 135
Styrene	5.00	4.27		ug/L		85	65 - 135
Tetrachloroethene	5.00	5.34		ug/L		107	65 - 135
Toluene	5.00	4.66		ug/L		93	65 - 135
trans-1,2-Dichloroethene	5.00	4.48		ug/L		90	65 - 135
Trichloroethene	5.00	5.02		ug/L		100	65 - 135
Vinyl chloride	5.00	4.68		ug/L		94	40 - 137
Xylenes, Total	10.0	9.46		ug/L		95	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 127
4-Bromofluorobenzene (Surr)	98		78 - 120
Dibromofluoromethane (Surr)	93		77 - 120
Toluene-d8 (Surr)	83		80 - 125

Lab Sample ID: LCSD 280-421081/5

Matrix: Water

Analysis Batch: 421081

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	5.00	4.89		ug/L		98	65 - 135	2	20
1,1-Dichloroethane	5.00	4.98		ug/L		100	65 - 135	7	21
1,1-Dichloroethene	5.00	4.29		ug/L		86	65 - 136	0	20
1,2-Dichloroethane	5.00	4.34		ug/L		87	65 - 135	8	20
Methyl ethyl ketone (MEK)	20.0	14.0		ug/L		70	44 - 177	5	32
Acetone	20.0	14.1		ug/L		71	39 - 156	4	23
Benzene	5.00	4.42		ug/L		88	65 - 135	9	20
Chloroethane	5.00	4.74		ug/L		95	46 - 136	3	25
cis-1,2-Dichloroethene	5.00	4.58		ug/L		92	65 - 135	7	20
Ethylbenzene	5.00	4.86		ug/L		97	65 - 135	4	20
Methylene Chloride	5.00	4.46		ug/L		89	54 - 141	3	26
m-Xylene & p-Xylene	5.00	4.98		ug/L		100	65 - 135	3	20
o-Xylene	5.00	4.65		ug/L		93	65 - 135	1	20
Styrene	5.00	4.41		ug/L		88	65 - 135	3	26
Tetrachloroethene	5.00	5.60		ug/L		112	65 - 135	5	20
Toluene	5.00	4.89		ug/L		98	65 - 135	5	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-421081/5

Matrix: Water

Analysis Batch: 421081

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	5.00	4.81		ug/L		96	65 - 135	7	24
Trichloroethene	5.00	5.53		ug/L		111	65 - 135	10	20
Vinyl chloride	5.00	5.16		ug/L		103	40 - 137	10	24
Xylenes, Total	10.0	9.63		ug/L		96	65 - 135	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 127
4-Bromofluorobenzene (Surr)	102		78 - 120
Dibromofluoromethane (Surr)	96		77 - 120
Toluene-d8 (Surr)	84		80 - 125

Lab Sample ID: 280-111289-C-6 MS

Matrix: Water

Analysis Batch: 421081

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	4.91		ug/L		98	65 - 135
1,1-Dichloroethane	ND		5.00	5.01		ug/L		100	65 - 135
1,1-Dichloroethene	ND		5.00	4.51		ug/L		90	65 - 136
1,2-Dichloroethane	ND	F1	5.00	21.1	F1	ug/L		423	65 - 135
Methyl ethyl ketone (MEK)	ND	F1 F2	20.0	36.4	F1	ug/L		182	44 - 177
Acetone	ND	F1	20.0	416	E F1	ug/L		2080	39 - 156
Benzene	140	E	5.00	132	E 4	ug/L		-139	65 - 135
Chloroethane	ND		5.00	6.02		ug/L		120	46 - 136
cis-1,2-Dichloroethene	ND		5.00	4.22		ug/L		84	65 - 135
Ethylbenzene	8.4		5.00	12.6		ug/L		83	65 - 135
Methylene Chloride	ND		5.00	6.15		ug/L		123	54 - 141
m-Xylene & p-Xylene	21		5.00	25.1	4	ug/L		80	65 - 135
o-Xylene	3.9		5.00	8.23		ug/L		87	65 - 135
Styrene	ND		5.00	4.45		ug/L		89	65 - 135
Tetrachloroethene	ND		5.00	5.37		ug/L		107	65 - 135
Toluene	21		5.00	23.2	4	ug/L		42	65 - 135
trans-1,2-Dichloroethene	ND		5.00	3.91		ug/L		78	65 - 135
Trichloroethene	ND		5.00	5.65		ug/L		113	65 - 135
Vinyl chloride	ND		5.00	6.13		ug/L		123	40 - 137
Xylenes, Total	25		10.0	33.3		ug/L		84	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	134	X	70 - 127
4-Bromofluorobenzene (Surr)	110		78 - 120
Dibromofluoromethane (Surr)	87		77 - 120
Toluene-d8 (Surr)	82		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111289-C-6 MSD

Matrix: Water

Analysis Batch: 421081

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	4.83		ug/L		97	65 - 135	1	20
1,1-Dichloroethane	ND		5.00	4.95		ug/L		99	65 - 135	1	21
1,1-Dichloroethene	ND		5.00	4.35		ug/L		87	65 - 136	4	20
1,2-Dichloroethane	ND	F1	5.00	20.1	F1	ug/L		403	65 - 135	5	20
Methyl ethyl ketone (MEK)	ND	F1 F2	20.0	51.0	F1 F2	ug/L		255	44 - 177	33	32
Acetone	ND	F1	20.0	385	E F1	ug/L		1926	39 - 156	8	23
Benzene	140	E	5.00	122	E 4	ug/L		-331	65 - 135	8	20
Chloroethane	ND		5.00	5.76		ug/L		115	46 - 136	4	25
cis-1,2-Dichloroethene	ND		5.00	4.41		ug/L		88	65 - 135	4	20
Ethylbenzene	8.4		5.00	11.8		ug/L		68	65 - 135	6	20
Methylene Chloride	ND		5.00	5.87		ug/L		117	54 - 141	5	26
m-Xylene & p-Xylene	21		5.00	23.7	4	ug/L		54	65 - 135	5	20
o-Xylene	3.9		5.00	8.00		ug/L		82	65 - 135	3	20
Styrene	ND		5.00	4.45		ug/L		89	65 - 135	0	26
Tetrachloroethene	ND		5.00	5.50		ug/L		110	65 - 135	2	20
Toluene	21		5.00	22.6	4	ug/L		28	65 - 135	3	20
trans-1,2-Dichloroethene	ND		5.00	3.88		ug/L		78	65 - 135	1	24
Trichloroethene	ND		5.00	5.72		ug/L		114	65 - 135	1	20
Vinyl chloride	ND		5.00	6.00		ug/L		120	40 - 137	2	24
Xylenes, Total	25		10.0	31.7		ug/L		68	65 - 135	5	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	129	X	70 - 127								
4-Bromofluorobenzene (Surr)	107		78 - 120								
Dibromofluoromethane (Surr)	84		77 - 120								
Toluene-d8 (Surr)	80		80 - 125								

## Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 280-419713/4

Matrix: Water

Analysis Batch: 419713

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.596	J	5.0	0.22	ug/L			06/23/18 10:11	1
Ethene	ND		5.0	0.40	ug/L			06/23/18 10:11	1
Ethane	ND		5.0	0.57	ug/L			06/23/18 10:11	1

Lab Sample ID: LCS 280-419713/5

Matrix: Water

Analysis Batch: 419713

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	146	130		ug/L		89	75 - 125
Ethene	255	250		ug/L		98	75 - 125
Ethane	274	268		ug/L		98	75 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 280-419713/6

Matrix: Water

Analysis Batch: 419713

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	146	141		ug/L		97	75 - 125	8	20
Ethene	255	266		ug/L		104	75 - 125	6	20
Ethane	274	290		ug/L		106	75 - 125	8	20

Lab Sample ID: 280-110865-12 MS

Matrix: Water

Analysis Batch: 419713

Client Sample ID: AFDV-108

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	12000	B	438	17000	4	ug/L		1177	52 - 145		
Ethene	ND		766	823		ug/L		107	75 - 131		
Ethane	8.3	J	821	926		ug/L		112	75 - 125		

Lab Sample ID: 280-110865-12 MSD

Matrix: Water

Analysis Batch: 419713

Client Sample ID: AFDV-108

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	12000	B	438	20400	4	ug/L		1959	52 - 145	18	20
Ethene	ND		766	855		ug/L		112	75 - 131	4	20
Ethane	8.3	J	821	996		ug/L		120	75 - 125	7	20

Lab Sample ID: 280-110865-12 DU

Matrix: Water

Analysis Batch: 419713

Client Sample ID: AFDV-108

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Methane	12000	B	12900		ug/L		8	20
Ethene	ND		ND		ug/L		NC	20
Ethane	8.3	J	8.80	J	ug/L		6	20

Lab Sample ID: MB 280-420253/4

Matrix: Water

Analysis Batch: 420253

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.626	J	5.0	0.22	ug/L			06/27/18 14:00	1
Ethene	ND		5.0	0.40	ug/L			06/27/18 14:00	1
Ethane	ND		5.0	0.57	ug/L			06/27/18 14:00	1

Lab Sample ID: LCS 280-420253/5

Matrix: Water

Analysis Batch: 420253

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	146	141		ug/L		96	75 - 125		
Ethene	255	261		ug/L		102	75 - 125		
Ethane	274	289		ug/L		106	75 - 125		

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 280-420253/6

Matrix: Water

Analysis Batch: 420253

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	146	141		ug/L		96	75 - 125	0	20
Ethene	255	262		ug/L		102	75 - 125	0	20
Ethane	274	291		ug/L		106	75 - 125	1	20

Lab Sample ID: 280-111018-H-5 MS

Matrix: Water

Analysis Batch: 420253

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	41	B	146	193		ug/L		104	52 - 145		
Ethene	ND		255	276		ug/L		108	75 - 131		
Ethane	ND		274	313		ug/L		114	75 - 125		

Lab Sample ID: 280-111018-H-5 MSD

Matrix: Water

Analysis Batch: 420253

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	41	B	146	169		ug/L		87	52 - 145	13	20
Ethene	ND		255	249		ug/L		97	75 - 131	10	20
Ethane	ND		274	275		ug/L		100	75 - 125	13	20

Lab Sample ID: 280-111018-G-5 DU

Matrix: Water

Analysis Batch: 420253

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	41	B	38.9		ug/L				6	20
Ethene	ND		ND		ug/L				NC	20
Ethane	ND		ND		ug/L				NC	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-418394/6

Matrix: Water

Analysis Batch: 418394

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			06/13/18 12:58	1
Sulfate	ND		5.0	0.23	mg/L			06/13/18 12:58	1

Lab Sample ID: LCS 280-418394/4

Matrix: Water

Analysis Batch: 418394

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	102		mg/L		102	90 - 110		
Sulfate	100	102		mg/L		102	90 - 110		

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-418394/5

Matrix: Water

Analysis Batch: 418394

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	102		mg/L		102	90 - 110	0	10
Sulfate	100	102		mg/L		102	90 - 110	0	10

Lab Sample ID: MRL 280-418394/3

Matrix: Water

Analysis Batch: 418394

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.50	2.50	J	mg/L		100	50 - 150		
Sulfate	2.50	2.42	J	mg/L		97	50 - 150		

Lab Sample ID: 280-110865-11 MS

Matrix: Water

Analysis Batch: 418394

Client Sample ID: AFDV-133

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	270	E	25.0	297	E 4	mg/L		94	80 - 120		
Sulfate	0.90	J	25.0	26.7		mg/L		103	80 - 120		

Lab Sample ID: 280-110865-11 MSD

Matrix: Water

Analysis Batch: 418394

Client Sample ID: AFDV-133

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	270	E	25.0	298	E 4	mg/L		98	80 - 120	0	20
Sulfate	0.90	J	25.0	26.7		mg/L		103	80 - 120	0	20

Lab Sample ID: 280-110865-15 MS

Matrix: Water

Analysis Batch: 418394

Client Sample ID: AFDV-125

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14		25.0	40.5		mg/L		104	80 - 120		
Sulfate	18		25.0	43.3		mg/L		101	80 - 120		

Lab Sample ID: 280-110865-15 MSD

Matrix: Water

Analysis Batch: 418394

Client Sample ID: AFDV-125

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14		25.0	40.5		mg/L		104	80 - 120	0	20
Sulfate	18		25.0	43.4		mg/L		101	80 - 120	0	20

Lab Sample ID: 280-110865-11 DU

Matrix: Water

Analysis Batch: 418394

Client Sample ID: AFDV-133

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	270	E	274	E	mg/L				0.2	15

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-110865-11 DU

Matrix: Water

Analysis Batch: 418394

Client Sample ID: AFDV-133

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	0.90	J	0.920	J	mg/L		3	15

Lab Sample ID: 280-110865-15 DU

Matrix: Water

Analysis Batch: 418394

Client Sample ID: AFDV-125

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	14		14.6		mg/L		0.6	15
Sulfate	18		17.2		mg/L		5	15

Lab Sample ID: MB 280-418395/6

Matrix: Water

Analysis Batch: 418395

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.50	0.042	mg/L			06/13/18 12:58	1

Lab Sample ID: LCS 280-418395/4

Matrix: Water

Analysis Batch: 418395

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5.00	4.86		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-418395/5

Matrix: Water

Analysis Batch: 418395

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5.00	4.87		mg/L		97	90 - 110	0	10

Lab Sample ID: MRL 280-418395/3

Matrix: Water

Analysis Batch: 418395

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.200	0.193	J	mg/L		96	50 - 150

Lab Sample ID: 280-110865-11 MS

Matrix: Water

Analysis Batch: 418395

Client Sample ID: AFDV-133

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND		5.00	4.82		mg/L		96	80 - 120



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-110865-11 MSD

Matrix: Water

Analysis Batch: 418395

Client Sample ID: AFDV-133

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND		5.00	4.91		mg/L		98	80 - 120	2	20

Lab Sample ID: 280-110865-15 MS

Matrix: Water

Analysis Batch: 418395

Client Sample ID: AFDV-125

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	2.8		5.00	7.69		mg/L		97	80 - 120		

Lab Sample ID: 280-110865-15 MSD

Matrix: Water

Analysis Batch: 418395

Client Sample ID: AFDV-125

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	2.8		5.00	7.70		mg/L		97	80 - 120	0	20

Lab Sample ID: 280-110865-11 DU

Matrix: Water

Analysis Batch: 418395

Client Sample ID: AFDV-133

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	ND		ND		mg/L		NC	15

Lab Sample ID: 280-110865-15 DU

Matrix: Water

Analysis Batch: 418395

Client Sample ID: AFDV-125

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	2.8		2.83		mg/L		0.5	15

Lab Sample ID: MB 280-420968/6

Matrix: Water

Analysis Batch: 420968

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			07/03/18 10:58	1
Sulfate	ND		5.0	0.23	mg/L			07/03/18 10:58	1

Lab Sample ID: LCS 280-420968/4

Matrix: Water

Analysis Batch: 420968

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	97.8		mg/L		98	90 - 110		
Sulfate	100	95.3		mg/L		95	90 - 110		



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-420968/5

Matrix: Water

Analysis Batch: 420968

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	97.7		mg/L		98	90 - 110	0	10
Sulfate	100	95.3		mg/L		95	90 - 110	0	10

Lab Sample ID: MRL 280-420968/3

Matrix: Water

Analysis Batch: 420968

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.50	2.51	J	mg/L		100	50 - 150		
Sulfate	2.50	2.15	J	mg/L		86	50 - 150		

Lab Sample ID: 280-110865-1 MS

Matrix: Water

Analysis Batch: 420968

Client Sample ID: AFDV-126

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	150		25.0	179	4	mg/L		99	80 - 120		
Sulfate	49		25.0	76.7		mg/L		111	80 - 120		

Lab Sample ID: 280-110865-1 MSD

Matrix: Water

Analysis Batch: 420968

Client Sample ID: AFDV-126

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	150		25.0	179	4	mg/L		100	80 - 120	0	20
Sulfate	49		25.0	74.2		mg/L		101	80 - 120	3	20

Lab Sample ID: 280-110865-1 DU

Matrix: Water

Analysis Batch: 420968

Client Sample ID: AFDV-126

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	150		154		mg/L				0.07	15
Sulfate	49		51.2		mg/L				5	15

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-420057/35

Matrix: Water

Analysis Batch: 420057

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	0.298	J	1.0	0.16	mg/L			06/26/18 00:21	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 280-420057/4

Matrix: Water

Analysis Batch: 420057

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	0.300	J	1.0	0.16	mg/L			06/25/18 16:08	1

Lab Sample ID: LCS 280-420057/3

Matrix: Water

Analysis Batch: 420057

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	23.9		mg/L		96	88 - 112

Lab Sample ID: LCS 280-420057/34

Matrix: Water

Analysis Batch: 420057

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	23.9		mg/L		96	88 - 112

Lab Sample ID: 280-110865-8 MS

Matrix: Water

Analysis Batch: 420057

Client Sample ID: AFDV-131

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	17	B	25.0	41.0		mg/L		96	88 - 112

Lab Sample ID: 280-110865-8 MSD

Matrix: Water

Analysis Batch: 420057

Client Sample ID: AFDV-131

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	17	B	25.0	41.3		mg/L		97	88 - 112	1	15

Lab Sample ID: 280-110865-17 MS

Matrix: Water

Analysis Batch: 420057

Client Sample ID: AFDV-119

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	15	B	25.0	37.8		mg/L		93	88 - 112

Lab Sample ID: 280-110865-17 MSD

Matrix: Water

Analysis Batch: 420057

Client Sample ID: AFDV-119

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	15	B	25.0	38.4		mg/L		95	88 - 112	2	15



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-419644/32  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1.71	J	5.0	1.1	mg/L	-		06/21/18 22:47	1

Lab Sample ID: MB 280-419644/58  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1.76	J	5.0	1.1	mg/L	-		06/22/18 01:34	1

Lab Sample ID: MB 280-419644/6  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1.37	J	5.0	1.1	mg/L	-		06/21/18 20:00	1

Lab Sample ID: LCS 280-419644/31  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	205		mg/L	-	103	90 - 110

Lab Sample ID: LCS 280-419644/4  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	199		mg/L	-	100	90 - 110

Lab Sample ID: LCS 280-419644/57  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	200		mg/L	-	100	90 - 110

Lab Sample ID: LCSD 280-419644/5  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	200	197		mg/L	-	98	90 - 110	1	10

Lab Sample ID: 280-110865-17 DU  
Matrix: Water  
Analysis Batch: 419644

Client Sample ID: AFDV-119  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	630	B	633		mg/L	-	0	10

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 280-418515/1

Matrix: Water

Analysis Batch: 418515

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.50	mg/L			06/14/18 06:51	1

Lab Sample ID: LCS 280-418515/2

Matrix: Water

Analysis Batch: 418515

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	27.4	28.2		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-418515/3

Matrix: Water

Analysis Batch: 418515

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	27.4	28.0		mg/L		102	90 - 110	1	10

## Method: SM3500\_FE\_D - Ferrous Iron

Lab Sample ID: MB 280-418499/5

Matrix: Water

Analysis Batch: 418499

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.20	0.021	mg/L			06/14/18 04:38	1

Lab Sample ID: LCS 280-418499/3

Matrix: Water

Analysis Batch: 418499

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	2.00	2.11		mg/L		105	85 - 113

Lab Sample ID: LCSD 280-418499/4

Matrix: Water

Analysis Batch: 418499

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	2.00	2.11		mg/L		105	85 - 113	0	10

Lab Sample ID: 280-110865-4 MS

Matrix: Water

Analysis Batch: 418499

Client Sample ID: AFDV-129

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF F1	2.00	1.53	F1	mg/L		77	85 - 113

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Method: SM3500\_FE\_D - Ferrous Iron (Continued)

Lab Sample ID: 280-110865-4 MSD

Matrix: Water

Analysis Batch: 418499

Client Sample ID: AFDV-129

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF F1	2.00	1.53	F1	mg/L	—	76	85 - 113	0	10

Lab Sample ID: 280-110865-16 MS

Matrix: Water

Analysis Batch: 418499

Client Sample ID: AFDV-106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	2.00	2.13		mg/L	—	106	85 - 113		

Lab Sample ID: 280-110865-16 MSD

Matrix: Water

Analysis Batch: 418499

Client Sample ID: AFDV-106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	2.00	2.06		mg/L	—	103	85 - 113	3	10

Lab Sample ID: 280-110865-4 DU

Matrix: Water

Analysis Batch: 418499

Client Sample ID: AFDV-129

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ferrous Iron	ND	HF F1		ND		mg/L	—			NC	10

Lab Sample ID: 280-110865-16 DU

Matrix: Water

Analysis Batch: 418499

Client Sample ID: AFDV-106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Ferrous Iron	ND	HF		ND		mg/L	—			NC	10



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## GC/MS VOA

### Analysis Batch: 420036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-1	AFDV-126	Total/NA	Water	8260B	
280-110865-1 - DL	AFDV-126	Total/NA	Water	8260B	
280-110865-2	AFDV-127	Total/NA	Water	8260B	
280-110865-3	AFDV-128	Total/NA	Water	8260B	
280-110865-3 - DL	AFDV-128	Total/NA	Water	8260B	
280-110865-4	AFDV-129	Total/NA	Water	8260B	
280-110865-5	AFDV-118	Total/NA	Water	8260B	
280-110865-6	AFDV-124	Total/NA	Water	8260B	
280-110865-7	AFDV-146	Total/NA	Water	8260B	
280-110865-8	AFDV-131	Total/NA	Water	8260B	
280-110865-8 - DL	AFDV-131	Total/NA	Water	8260B	
280-110865-9	AFDV-134	Total/NA	Water	8260B	
280-110865-9 - DL	AFDV-134	Total/NA	Water	8260B	
280-110865-10	AFDV-132	Total/NA	Water	8260B	
280-110865-10 - DL	AFDV-132	Total/NA	Water	8260B	
280-110865-11	AFDV-133	Total/NA	Water	8260B	
280-110865-11 - DL	AFDV-133	Total/NA	Water	8260B	
280-110865-12	AFDV-108	Total/NA	Water	8260B	
280-110865-13	AFDV-116	Total/NA	Water	8260B	
280-110865-14	AFDV-147	Total/NA	Water	8260B	
280-110865-15	AFDV-125	Total/NA	Water	8260B	
280-110865-16	AFDV-106	Total/NA	Water	8260B	
280-110865-16 - DL	AFDV-106	Total/NA	Water	8260B	
MB 280-420036/6	Method Blank	Total/NA	Water	8260B	
LCS 280-420036/4	Lab Control Sample	Total/NA	Water	8260B	
280-110865-1 MS	AFDV-126	Total/NA	Water	8260B	
280-110865-1 MSD	AFDV-126	Total/NA	Water	8260B	

### Analysis Batch: 420653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-17	AFDV-119	Total/NA	Water	8260B	
280-110865-17 - DL	AFDV-119	Total/NA	Water	8260B	
280-110865-18	AFDV-120	Total/NA	Water	8260B	
280-110865-18 - DL	AFDV-120	Total/NA	Water	8260B	
280-110865-19	AFDV-110	Total/NA	Water	8260B	
280-110865-19 - DL	AFDV-110	Total/NA	Water	8260B	
280-110865-20	AFDV-148	Total/NA	Water	8260B	
MB 280-420653/6	Method Blank	Total/NA	Water	8260B	
LCS 280-420653/4	Lab Control Sample	Total/NA	Water	8260B	
280-110720-D-1 MS	Matrix Spike	Total/NA	Water	8260B	
280-110720-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 421081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-21	AFDV-145	Total/NA	Water	8260B	
MB 280-421081/6	Method Blank	Total/NA	Water	8260B	
LCS 280-421081/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-421081/5	Lab Control Sample Dup	Total/NA	Water	8260B	
280-111289-C-6 MS	Matrix Spike	Total/NA	Water	8260B	
280-111289-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## GC VOA

### Analysis Batch: 419713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-4	AFDV-129	Total/NA	Water	RSK-175	
280-110865-5	AFDV-118	Total/NA	Water	RSK-175	
280-110865-6	AFDV-124	Total/NA	Water	RSK-175	
280-110865-8	AFDV-131	Total/NA	Water	RSK-175	
280-110865-9	AFDV-134	Total/NA	Water	RSK-175	
280-110865-10	AFDV-132	Total/NA	Water	RSK-175	
280-110865-11	AFDV-133	Total/NA	Water	RSK-175	
280-110865-12	AFDV-108	Total/NA	Water	RSK-175	
280-110865-13	AFDV-116	Total/NA	Water	RSK-175	
280-110865-15	AFDV-125	Total/NA	Water	RSK-175	
280-110865-16	AFDV-106	Total/NA	Water	RSK-175	
280-110865-17	AFDV-119	Total/NA	Water	RSK-175	
280-110865-18	AFDV-120	Total/NA	Water	RSK-175	
280-110865-19	AFDV-110	Total/NA	Water	RSK-175	
280-110865-21	AFDV-145	Total/NA	Water	RSK-175	
MB 280-419713/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-419713/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-419713/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-110865-12 MS	AFDV-108	Total/NA	Water	RSK-175	
280-110865-12 MSD	AFDV-108	Total/NA	Water	RSK-175	
280-110865-12 DU	AFDV-108	Total/NA	Water	RSK-175	

### Analysis Batch: 420253

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-8 - DL	AFDV-131	Total/NA	Water	RSK-175	
280-110865-9 - DL	AFDV-134	Total/NA	Water	RSK-175	
280-110865-10 - DL	AFDV-132	Total/NA	Water	RSK-175	
280-110865-11 - DL	AFDV-133	Total/NA	Water	RSK-175	
280-110865-13 - DL	AFDV-116	Total/NA	Water	RSK-175	
280-110865-17 - DL	AFDV-119	Total/NA	Water	RSK-175	
280-110865-18 - DL	AFDV-120	Total/NA	Water	RSK-175	
MB 280-420253/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-420253/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-420253/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-111018-H-5 MS	Matrix Spike	Total/NA	Water	RSK-175	
280-111018-H-5 MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	
280-111018-G-5 DU	Duplicate	Total/NA	Water	RSK-175	

## General Chemistry

### Analysis Batch: 418394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-4	AFDV-129	Total/NA	Water	300.0	
280-110865-5	AFDV-118	Total/NA	Water	300.0	
280-110865-6	AFDV-124	Total/NA	Water	300.0	
280-110865-8	AFDV-131	Total/NA	Water	300.0	
280-110865-9	AFDV-134	Total/NA	Water	300.0	
280-110865-10	AFDV-132	Total/NA	Water	300.0	
280-110865-11	AFDV-133	Total/NA	Water	300.0	
280-110865-12	AFDV-108	Total/NA	Water	300.0	



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## General Chemistry (Continued)

### Analysis Batch: 418394 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-13	AFDV-116	Total/NA	Water	300.0	
280-110865-15	AFDV-125	Total/NA	Water	300.0	
280-110865-16	AFDV-106	Total/NA	Water	300.0	
280-110865-17	AFDV-119	Total/NA	Water	300.0	
280-110865-17	AFDV-119	Total/NA	Water	300.0	
280-110865-18	AFDV-120	Total/NA	Water	300.0	
280-110865-18	AFDV-120	Total/NA	Water	300.0	
280-110865-19	AFDV-110	Total/NA	Water	300.0	
280-110865-21	AFDV-145	Total/NA	Water	300.0	
MB 280-418394/6	Method Blank	Total/NA	Water	300.0	
LCS 280-418394/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-418394/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-418394/3	Lab Control Sample	Total/NA	Water	300.0	
280-110865-11 MS	AFDV-133	Total/NA	Water	300.0	
280-110865-11 MSD	AFDV-133	Total/NA	Water	300.0	
280-110865-15 MS	AFDV-125	Total/NA	Water	300.0	
280-110865-15 MSD	AFDV-125	Total/NA	Water	300.0	
280-110865-11 DU	AFDV-133	Total/NA	Water	300.0	
280-110865-15 DU	AFDV-125	Total/NA	Water	300.0	

### Analysis Batch: 418395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-4	AFDV-129	Total/NA	Water	300.0	
280-110865-5	AFDV-118	Total/NA	Water	300.0	
280-110865-6	AFDV-124	Total/NA	Water	300.0	
280-110865-8	AFDV-131	Total/NA	Water	300.0	
280-110865-9	AFDV-134	Total/NA	Water	300.0	
280-110865-10	AFDV-132	Total/NA	Water	300.0	
280-110865-11	AFDV-133	Total/NA	Water	300.0	
280-110865-12	AFDV-108	Total/NA	Water	300.0	
280-110865-13	AFDV-116	Total/NA	Water	300.0	
280-110865-15	AFDV-125	Total/NA	Water	300.0	
280-110865-16	AFDV-106	Total/NA	Water	300.0	
280-110865-17	AFDV-119	Total/NA	Water	300.0	
280-110865-18	AFDV-120	Total/NA	Water	300.0	
280-110865-19	AFDV-110	Total/NA	Water	300.0	
280-110865-21	AFDV-145	Total/NA	Water	300.0	
MB 280-418395/6	Method Blank	Total/NA	Water	300.0	
LCS 280-418395/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-418395/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-418395/3	Lab Control Sample	Total/NA	Water	300.0	
280-110865-11 MS	AFDV-133	Total/NA	Water	300.0	
280-110865-11 MSD	AFDV-133	Total/NA	Water	300.0	
280-110865-15 MS	AFDV-125	Total/NA	Water	300.0	
280-110865-15 MSD	AFDV-125	Total/NA	Water	300.0	
280-110865-11 DU	AFDV-133	Total/NA	Water	300.0	
280-110865-15 DU	AFDV-125	Total/NA	Water	300.0	

### Analysis Batch: 418499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-4	AFDV-129	Total/NA	Water	SM3500_FE_D	

TestAmerica Denver



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## General Chemistry (Continued)

### Analysis Batch: 418499 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-5	AFDV-118	Total/NA	Water	SM3500_FE_D	
280-110865-6	AFDV-124	Total/NA	Water	SM3500_FE_D	
280-110865-8	AFDV-131	Total/NA	Water	SM3500_FE_D	
280-110865-9	AFDV-134	Total/NA	Water	SM3500_FE_D	
280-110865-10	AFDV-132	Total/NA	Water	SM3500_FE_D	
280-110865-11	AFDV-133	Total/NA	Water	SM3500_FE_D	
280-110865-12	AFDV-108	Total/NA	Water	SM3500_FE_D	
280-110865-13	AFDV-116	Total/NA	Water	SM3500_FE_D	
280-110865-15	AFDV-125	Total/NA	Water	SM3500_FE_D	
280-110865-16	AFDV-106	Total/NA	Water	SM3500_FE_D	
280-110865-17	AFDV-119	Total/NA	Water	SM3500_FE_D	
280-110865-18	AFDV-120	Total/NA	Water	SM3500_FE_D	
280-110865-19	AFDV-110	Total/NA	Water	SM3500_FE_D	
280-110865-21	AFDV-145	Total/NA	Water	SM3500_FE_D	
MB 280-418499/5	Method Blank	Total/NA	Water	SM3500_FE_D	
LCS 280-418499/3	Lab Control Sample	Total/NA	Water	SM3500_FE_D	
LCSD 280-418499/4	Lab Control Sample Dup	Total/NA	Water	SM3500_FE_D	
280-110865-4 MS	AFDV-129	Total/NA	Water	SM3500_FE_D	
280-110865-4 MSD	AFDV-129	Total/NA	Water	SM3500_FE_D	
280-110865-16 MS	AFDV-106	Total/NA	Water	SM3500_FE_D	
280-110865-16 MSD	AFDV-106	Total/NA	Water	SM3500_FE_D	
280-110865-4 DU	AFDV-129	Total/NA	Water	SM3500_FE_D	
280-110865-16 DU	AFDV-106	Total/NA	Water	SM3500_FE_D	

### Analysis Batch: 418515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-4	AFDV-129	Total/NA	Water	SM 4500 S2 F	
280-110865-5	AFDV-118	Total/NA	Water	SM 4500 S2 F	
280-110865-6	AFDV-124	Total/NA	Water	SM 4500 S2 F	
280-110865-8	AFDV-131	Total/NA	Water	SM 4500 S2 F	
280-110865-9	AFDV-134	Total/NA	Water	SM 4500 S2 F	
280-110865-10	AFDV-132	Total/NA	Water	SM 4500 S2 F	
280-110865-11	AFDV-133	Total/NA	Water	SM 4500 S2 F	
280-110865-12	AFDV-108	Total/NA	Water	SM 4500 S2 F	
280-110865-13	AFDV-116	Total/NA	Water	SM 4500 S2 F	
280-110865-15	AFDV-125	Total/NA	Water	SM 4500 S2 F	
280-110865-16	AFDV-106	Total/NA	Water	SM 4500 S2 F	
280-110865-17	AFDV-119	Total/NA	Water	SM 4500 S2 F	
280-110865-18	AFDV-120	Total/NA	Water	SM 4500 S2 F	
280-110865-19	AFDV-110	Total/NA	Water	SM 4500 S2 F	
280-110865-21	AFDV-145	Total/NA	Water	SM 4500 S2 F	
MB 280-418515/1	Method Blank	Total/NA	Water	SM 4500 S2 F	
LCS 280-418515/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
LCSD 280-418515/3	Lab Control Sample Dup	Total/NA	Water	SM 4500 S2 F	

### Analysis Batch: 419644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-4	AFDV-129	Total/NA	Water	SM 2320B	
280-110865-5	AFDV-118	Total/NA	Water	SM 2320B	
280-110865-6	AFDV-124	Total/NA	Water	SM 2320B	
280-110865-8	AFDV-131	Total/NA	Water	SM 2320B	

TestAmerica Denver



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## General Chemistry (Continued)

### Analysis Batch: 419644 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-9	AFDV-134	Total/NA	Water	SM 2320B	
280-110865-10	AFDV-132	Total/NA	Water	SM 2320B	
280-110865-11	AFDV-133	Total/NA	Water	SM 2320B	
280-110865-12	AFDV-108	Total/NA	Water	SM 2320B	
280-110865-13	AFDV-116	Total/NA	Water	SM 2320B	
280-110865-15	AFDV-125	Total/NA	Water	SM 2320B	
280-110865-16	AFDV-106	Total/NA	Water	SM 2320B	
280-110865-17	AFDV-119	Total/NA	Water	SM 2320B	
280-110865-18	AFDV-120	Total/NA	Water	SM 2320B	
280-110865-19	AFDV-110	Total/NA	Water	SM 2320B	
280-110865-21	AFDV-145	Total/NA	Water	SM 2320B	
MB 280-419644/32	Method Blank	Total/NA	Water	SM 2320B	
MB 280-419644/58	Method Blank	Total/NA	Water	SM 2320B	
MB 280-419644/6	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-419644/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-419644/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-419644/57	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-419644/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
280-110865-17 DU	AFDV-119	Total/NA	Water	SM 2320B	

### Analysis Batch: 420057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-1	AFDV-126	Total/NA	Water	9060	
280-110865-2	AFDV-127	Total/NA	Water	9060	
280-110865-3	AFDV-128	Total/NA	Water	9060	
280-110865-4	AFDV-129	Total/NA	Water	9060	
280-110865-5	AFDV-118	Total/NA	Water	9060	
280-110865-6	AFDV-124	Total/NA	Water	9060	
280-110865-8	AFDV-131	Total/NA	Water	9060	
280-110865-9	AFDV-134	Total/NA	Water	9060	
280-110865-10	AFDV-132	Total/NA	Water	9060	
280-110865-11	AFDV-133	Total/NA	Water	9060	
280-110865-12	AFDV-108	Total/NA	Water	9060	
280-110865-13	AFDV-116	Total/NA	Water	9060	
280-110865-15	AFDV-125	Total/NA	Water	9060	
280-110865-16	AFDV-106	Total/NA	Water	9060	
280-110865-17	AFDV-119	Total/NA	Water	9060	
280-110865-18	AFDV-120	Total/NA	Water	9060	
280-110865-19	AFDV-110	Total/NA	Water	9060	
280-110865-21	AFDV-145	Total/NA	Water	9060	
MB 280-420057/35	Method Blank	Total/NA	Water	9060	
MB 280-420057/4	Method Blank	Total/NA	Water	9060	
LCS 280-420057/3	Lab Control Sample	Total/NA	Water	9060	
LCS 280-420057/34	Lab Control Sample	Total/NA	Water	9060	
280-110865-8 MS	AFDV-131	Total/NA	Water	9060	
280-110865-8 MSD	AFDV-131	Total/NA	Water	9060	
280-110865-17 MS	AFDV-119	Total/NA	Water	9060	
280-110865-17 MSD	AFDV-119	Total/NA	Water	9060	



## QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

### General Chemistry (Continued)

#### Analysis Batch: 420968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110865-1	AFDV-126	Total/NA	Water	300.0	
280-110865-2	AFDV-127	Total/NA	Water	300.0	
280-110865-3	AFDV-128	Total/NA	Water	300.0	
280-110865-8	AFDV-131	Total/NA	Water	300.0	
280-110865-10	AFDV-132	Total/NA	Water	300.0	
280-110865-11	AFDV-133	Total/NA	Water	300.0	
MB 280-420968/6	Method Blank	Total/NA	Water	300.0	
LCS 280-420968/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-420968/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-420968/3	Lab Control Sample	Total/NA	Water	300.0	
280-110865-1 MS	AFDV-126	Total/NA	Water	300.0	
280-110865-1 MSD	AFDV-126	Total/NA	Water	300.0	
280-110865-1 DU	AFDV-126	Total/NA	Water	300.0	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Client Sample ID: AFDV-126

Date Collected: 06/12/18 10:05

Date Received: 06/13/18 09:00

## Lab Sample ID: 280-110865-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	20 mL	20 mL	420036	06/26/18 10:51	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	2000	20 mL	20 mL	420036	06/26/18 11:13	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	420968	07/04/18 00:16	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/25/18 23:33	A1D	TAL DEN

## Client Sample ID: AFDV-127

Date Collected: 06/12/18 10:10

Date Received: 06/13/18 09:00

## Lab Sample ID: 280-110865-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 12:17	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	420968	07/04/18 01:45	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/25/18 23:49	A1D	TAL DEN

## Client Sample ID: AFDV-128

Date Collected: 06/12/18 10:10

Date Received: 06/13/18 09:00

## Lab Sample ID: 280-110865-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 12:39	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	10	20 mL	20 mL	420036	06/26/18 13:00	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	420968	07/04/18 02:08	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 00:52	A1D	TAL DEN

## Client Sample ID: AFDV-129

Date Collected: 06/12/18 11:35

Date Received: 06/13/18 09:00

## Lab Sample ID: 280-110865-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 13:22	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 11:47	GPM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 19:08	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 19:08	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 01:07	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/21/18 23:47	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-118**

**Date Collected: 06/12/18 11:30**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 13:43	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 12:01	GPM	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	418394	06/13/18 18:46	CCJ	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	418395	06/13/18 18:46	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 02:56	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 00:07	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		10	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-124**

**Date Collected: 06/12/18 10:10**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-6**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 14:05	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 12:15	GPM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 18:24	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 18:24	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 03:15	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 00:13	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-146**

**Date Collected: 06/12/18 16:32**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 14:26	TAW	TAL DEN

**Client Sample ID: AFDV-131**

**Date Collected: 06/12/18 14:50**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-8**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	20 mL	20 mL	420036	06/26/18 14:48	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	1000	20 mL	20 mL	420036	06/26/18 15:09	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 12:29	GPM	TAL DEN
Total/NA	Analysis	RSK-175	DL	3	18 mL	18 mL	420253	06/27/18 15:55	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 21:44	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 21:44	CCJ	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	5 mL	5 mL	420968	07/04/18 02:30	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 01:55	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 00:21	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-134**

**Lab Sample ID: 280-110865-9**

**Date Collected: 06/12/18 15:00**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	20 mL	20 mL	420036	06/26/18 15:31	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	40	20 mL	20 mL	420036	06/26/18 15:53	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 12:43	GPM	TAL DEN
Total/NA	Analysis	RSK-175	DL	36	18 mL	18 mL	420253	06/27/18 16:09	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 22:06	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 22:06	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 02:40	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 00:28	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-132**

**Lab Sample ID: 280-110865-10**

**Date Collected: 06/12/18 15:10**

**Matrix: Water**

**Date Received: 06/13/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		40	20 mL	20 mL	420036	06/26/18 16:14	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	400	20 mL	20 mL	420036	06/26/18 16:36	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 12:57	GPM	TAL DEN
Total/NA	Analysis	RSK-175	DL	36	18 mL	18 mL	420253	06/27/18 16:23	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 22:28	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 22:28	CCJ	TAL DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	420968	07/04/18 03:36	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 03:30	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 00:37	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-133**

**Date Collected: 06/12/18 15:15**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-11**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		40	20 mL	20 mL	420036	06/26/18 16:58	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	400	20 mL	20 mL	420036	06/26/18 17:19	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 13:11	GPM	TAL DEN
Total/NA	Analysis	RSK-175	DL	36	18 mL	18 mL	420253	06/27/18 16:37	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 22:50	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 22:50	CCJ	TAL DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	420968	07/04/18 03:59	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 03:47	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 00:44	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-108**

**Date Collected: 06/12/18 15:46**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-12**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 17:41	TAW	TAL DEN
Total/NA	Analysis	RSK-175		3	18 mL	18 mL	419713	06/23/18 13:52	GPM	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	418394	06/14/18 00:41	CCJ	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	418395	06/14/18 00:41	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 04:03	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 00:52	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		5	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-116**

**Date Collected: 06/12/18 15:30**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-13**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 18:02	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 13:24	GPM	TAL DEN
Total/NA	Analysis	RSK-175	DL	3	18 mL	18 mL	420253	06/27/18 16:52	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/14/18 00:19	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/14/18 00:19	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 04:20	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 01:00	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		2	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-147**

**Date Collected: 06/12/18 16:33**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-14**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 18:24	TAW	TAL DEN

**Client Sample ID: AFDV-125**

**Date Collected: 06/12/18 09:55**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-15**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420036	06/26/18 18:45	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 13:38	GPM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 16:55	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 16:55	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 06:13	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 01:06	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-106**

**Date Collected: 06/12/18 14:34**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-16**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		4	20 mL	20 mL	420036	06/26/18 19:07	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	40	20 mL	20 mL	420036	06/26/18 19:29	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 16:25	GPM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 21:21	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 21:21	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 06:32	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 01:13	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-119**

**Date Collected: 06/12/18 11:35**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-17**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	20 mL	20 mL	420653	06/30/18 01:47	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	1000	20 mL	20 mL	420653	06/30/18 02:07	JNL	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 16:39	GPM	TAL DEN
Total/NA	Analysis	RSK-175	DL	18	18 mL	18 mL	420253	06/27/18 17:06	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 19:30	CCJ	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 19:30	CCJ	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	418394	06/14/18 04:46	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 05:10	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 01:43	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-120**

**Date Collected: 06/12/18 11:40**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-18**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	20 mL	20 mL	420653	06/30/18 02:28	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	2000	20 mL	20 mL	420653	06/30/18 02:49	JNL	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 16:53	GPM	TAL DEN
Total/NA	Analysis	RSK-175	DL	18	18 mL	18 mL	420253	06/27/18 17:20	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 19:53	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 19:53	CCJ	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	418394	06/14/18 05:08	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 05:59	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 01:59	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

**Client Sample ID: AFDV-110**

**Date Collected: 06/12/18 14:20**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-19**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	20 mL	20 mL	420653	06/30/18 03:10	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	20	20 mL	20 mL	420653	06/30/18 03:31	JNL	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 17:07	GPM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/13/18 20:15	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/13/18 20:15	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 06:51	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 02:06	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

**Client Sample ID: AFDV-148**

**Date Collected: 06/12/18 16:34**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-20**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420653	06/30/18 03:51	JNL	TAL DEN

**Client Sample ID: AFDV-145**

**Date Collected: 06/12/18 16:45**

**Date Received: 06/13/18 09:00**

**Lab Sample ID: 280-110865-21**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	421081	07/04/18 20:07	GPM	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419713	06/23/18 17:21	GPM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418394	06/14/18 01:48	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418395	06/14/18 01:48	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420057	06/26/18 07:06	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419644	06/22/18 02:12	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418515	06/14/18 06:51	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	418499	06/14/18 04:38	IEU	TAL DEN

## Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

## Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Iowa	State Program	7	370	12-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,2-Dichloroethane
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Chloroethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	Ethylbenzene
8260B		Water	Methyl ethyl ketone (MEK)
8260B		Water	Methylene Chloride
8260B		Water	m-Xylene & p-Xylene
8260B		Water	o-Xylene
8260B		Water	Styrene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	Trichloroethene
8260B		Water	Vinyl chloride
8260B		Water	Xylenes, Total
9060		Water	Total Organic Carbon - Average
RSK-175		Water	Ethane
RSK-175		Water	Ethene
RSK-175		Water	Methane
SM3500_FE_D		Water	Ferrous Iron

Oregon	NELAP	10	4025	01-08-19
--------	-------	----	------	----------

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
9060		Water	Total Organic Carbon - Average
SM3500_FE_D		Water	Ferrous Iron



## Method Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
RSK-175	Dissolved Gases (GC)	RSK	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
9060	Organic Carbon, Total (TOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 4500 S2 F	Sulfide, Total	SM	TAL DEN
SM3500_FE_D	Ferrous Iron	SM20	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Sample Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110865-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-110865-1	AFDV-126	Water	06/12/18 10:05	06/13/18 09:00
280-110865-2	AFDV-127	Water	06/12/18 10:10	06/13/18 09:00
280-110865-3	AFDV-128	Water	06/12/18 10:10	06/13/18 09:00
280-110865-4	AFDV-129	Water	06/12/18 11:35	06/13/18 09:00
280-110865-5	AFDV-118	Water	06/12/18 11:30	06/13/18 09:00
280-110865-6	AFDV-124	Water	06/12/18 10:10	06/13/18 09:00
280-110865-7	AFDV-146	Water	06/12/18 16:32	06/13/18 09:00
280-110865-8	AFDV-131	Water	06/12/18 14:50	06/13/18 09:00
280-110865-9	AFDV-134	Water	06/12/18 15:00	06/13/18 09:00
280-110865-10	AFDV-132	Water	06/12/18 15:10	06/13/18 09:00
280-110865-11	AFDV-133	Water	06/12/18 15:15	06/13/18 09:00
280-110865-12	AFDV-108	Water	06/12/18 15:46	06/13/18 09:00
280-110865-13	AFDV-116	Water	06/12/18 15:30	06/13/18 09:00
280-110865-14	AFDV-147	Water	06/12/18 16:33	06/13/18 09:00
280-110865-15	AFDV-125	Water	06/12/18 09:55	06/13/18 09:00
280-110865-16	AFDV-106	Water	06/12/18 14:34	06/13/18 09:00
280-110865-17	AFDV-119	Water	06/12/18 11:35	06/13/18 09:00
280-110865-18	AFDV-120	Water	06/12/18 11:40	06/13/18 09:00
280-110865-19	AFDV-110	Water	06/12/18 14:20	06/13/18 09:00
280-110865-20	AFDV-148	Water	06/12/18 16:34	06/13/18 09:00
280-110865-21	AFDV-145	Water	06/12/18 16:45	06/13/18 09:00



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H Analysis Batch Number: 415628Lab Sample ID: IC 280-415628/10 Client Sample ID: \_\_\_\_\_Date Analyzed: 05/21/18 08:40 Lab File ID: H6508.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Propanol		Invalid Compound ID	moanm	05/21/18 11:23
Acetonitrile		Invalid Compound ID	moanm	05/21/18 11:23
Ethanol		Invalid Compound ID	moanm	05/21/18 11:23

Lab Sample ID: IC 280-415628/11 Client Sample ID: \_\_\_\_\_Date Analyzed: 05/21/18 09:02 Lab File ID: H6509.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Propanol	3.62	Assign Peak	moanm	05/21/18 11:24



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H Analysis Batch Number: 419443Lab Sample ID: STD003 280-419443/10 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/21/18 09:50 Lab File ID: H7636.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrolein		Invalid Compound ID	wickhamt	06/21/18 11:51
Cyclohexanone		Invalid Compound ID	wickhamt	06/21/18 11:52
Vinyl acetate		Invalid Compound ID	wickhamt	06/21/18 11:51



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H Analysis Batch Number: 420036Lab Sample ID: CCV 280-420036/2 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 09:00 Lab File ID: H7786.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Chloroethyl vinyl ether		Invalid Compound ID	wickhamt	06/26/18 09:25

Lab Sample ID: 280-110865-1 Client Sample ID: AFDV-126Date Analyzed: 06/26/18 10:51 Lab File ID: H7791.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	06/26/18 12:12

Lab Sample ID: 280-110865-1 MS Client Sample ID: AFDV-126 MSDate Analyzed: 06/26/18 11:34 Lab File ID: H7793.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1-Dichloroethane	4.63	Split Peak	wickhamt	06/27/18 07:31

Lab Sample ID: 280-110865-3 Client Sample ID: AFDV-128Date Analyzed: 06/26/18 12:39 Lab File ID: H7796.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	06/26/18 12:58

Lab Sample ID: 280-110865-8 Client Sample ID: AFDV-131Date Analyzed: 06/26/18 14:48 Lab File ID: H7802.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	06/27/18 06:24
Styrene		Invalid Compound ID	wickhamt	06/27/18 06:24



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H Analysis Batch Number: 420036Lab Sample ID: 280-110865-9 Client Sample ID: AFDV-134Date Analyzed: 06/26/18 15:31 Lab File ID: H7804.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Styrene		Invalid Compound ID	wickhamt	06/27/18 06:25

Lab Sample ID: 280-110865-10 Client Sample ID: AFDV-132Date Analyzed: 06/26/18 16:14 Lab File ID: H7806.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Styrene		Invalid Compound ID	wickhamt	06/27/18 06:26

Lab Sample ID: 280-110865-11 Client Sample ID: AFDV-133Date Analyzed: 06/26/18 16:58 Lab File ID: H7808.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Styrene		Invalid Compound ID	wickhamt	06/27/18 06:26

Lab Sample ID: 280-110865-12 Client Sample ID: AFDV-108Date Analyzed: 06/26/18 17:41 Lab File ID: H7810.D GC Column: DB-624 (75.53 ID: 0.53 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	wickhamt	06/27/18 06:27



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Analysis Batch Number: 408278Lab Sample ID: STD 280-408278/19 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 03/19/18 10:17 Lab File ID: MS9\_7350.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.96	Assign Peak	dobransky m	03/19/18 11:37



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Analysis Batch Number: 420653Lab Sample ID: 280-110865-17 Client Sample ID: AFDV-119Date Analyzed: 06/30/18 01:47 Lab File ID: MS9\_2071.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane		Invalid Compound ID	meierg	07/02/18 22:11
Styrene		Invalid Compound ID	meierg	07/02/18 22:11

Lab Sample ID: 280-110865-18 Client Sample ID: AFDV-120Date Analyzed: 06/30/18 02:28 Lab File ID: MS9\_2074.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Styrene		Invalid Compound ID	meierg	07/02/18 22:12



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 419807Lab Sample ID: STD010 280-419807/19 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 12:56 Lab File ID: Q5010.D GC Column: DB-624 (60.25 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propionitrile	7.04	Split Peak	seifertj	06/26/18 15:05

Lab Sample ID: STD020 280-419807/20 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 13:19 Lab File ID: Q5011.D GC Column: DB-624 (60.25 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propionitrile	6.97	Split Peak	seifertj	06/26/18 15:01

Lab Sample ID: ICV 280-419807/25 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 15:59 Lab File ID: Q5018.D GC Column: DB-624 (60.25 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetonitrile		Invalid Compound ID	seifertj	06/26/18 14:40
n-Butanol		Invalid Compound ID	ilczyszyn d	06/26/18 08:08



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 420110Lab Sample ID: STD003 280-420110/12 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 14:23 Lab File ID: Q5046.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	4.44	Wrong peak	seifertj	06/27/18 07:34
Vinyl chloride	4.55	Split Peak	seifertj	06/27/18 07:34
Bromomethane	4.89	Assign Peak	seifertj	06/27/18 07:34
Trichlorofluoromethane	5.16	Assign Peak	seifertj	06/27/18 07:34
Carbon disulfide	5.90	Assign Peak	seifertj	06/27/18 07:35
Acetone		Invalid Compound ID	seifertj	06/27/18 07:34
Acrylonitrile		Invalid Compound ID	seifertj	06/27/18 07:35
Isobutyl alcohol		Invalid Compound ID	seifertj	06/27/18 07:35
Methyl ethyl ketone (MEK)		Invalid Compound ID	seifertj	06/27/18 07:35
sec-Butyl Alcohol		Invalid Compound ID	seifertj	06/27/18 07:35

Lab Sample ID: STD010 280-420110/13 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 14:44 Lab File ID: Q5047.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	4.44	Wrong peak	seifertj	06/26/18 15:39
Methyl ethyl ketone (MEK)	6.88	Split Peak	seifertj	06/27/18 07:36
sec-Butyl Alcohol	6.93	Wrong peak	seifertj	06/26/18 15:39

Lab Sample ID: STD020 280-420110/14 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 15:05 Lab File ID: Q5048.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	4.45	Wrong peak	seifertj	06/26/18 15:40



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 420110Lab Sample ID: STD050 280-420110/15 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 15:28 Lab File ID: Q5049.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	4.53	Assign Peak	seifertj	06/26/18 16:38
Trichlorofluoromethane	5.30	Assign Peak	seifertj	06/26/18 16:38
Carbon disulfide	6.01	Split Peak	seifertj	06/27/18 07:38

Lab Sample ID: STD10 280-420110/16 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 15:51 Lab File ID: Q5050.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	4.52	Assign Peak	seifertj	06/26/18 16:45
Bromomethane	4.99	Assign Peak	seifertj	06/26/18 16:45
Dichlorofluoromethane	5.19	Assign Peak	seifertj	06/26/18 16:45
Trichlorofluoromethane	5.29	Assign Peak	seifertj	06/26/18 16:45
Carbon disulfide	6.01	Split Peak	seifertj	06/26/18 16:45

Lab Sample ID: STD60 280-420110/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 16:38 Lab File ID: Q5052.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	6.00	Split Peak	seifertj	06/27/18 07:40

Lab Sample ID: STD30 280-420110/17 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/26/18 17:02 Lab File ID: Q5053.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	6.00	Split Peak	seifertj	06/27/18 07:54



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 421081Lab Sample ID: CCV 280-421081/2 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/04/18 09:33 Lab File ID: Q5397.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Chloroethyl vinyl ether		Invalid Compound ID	meierg	07/04/18 10:06

Lab Sample ID: 280-110865-21 Client Sample ID: AFDV-145Date Analyzed: 07/04/18 20:07 Lab File ID: Q5425.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethylbenzene		Invalid Compound ID	meierg	07/05/18 11:36



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 418001Lab Sample ID: IC 280-418001/8 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/10/18 20:52 Lab File ID: 06100008.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	2.84	Incomplete Integration	perssonk	06/11/18 10:55

Lab Sample ID: IC 280-418001/10 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/10/18 21:20 Lab File ID: 06100010.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.52	Incomplete Integration	perssonk	06/11/18 10:04

Lab Sample ID: IC 280-418001/11 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/10/18 21:34 Lab File ID: 06100011.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.84	Incomplete Integration	perssonk	06/11/18 10:05



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 419713Lab Sample ID: 280-110865-8 Client Sample ID: AFDV-131Date Analyzed: 06/23/18 12:29 Lab File ID: 06230014.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	2.49	Unspecified		

Lab Sample ID: 280-110865-9 Client Sample ID: AFDV-134Date Analyzed: 06/23/18 12:43 Lab File ID: 06230015.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	2.87	Unspecified		

Lab Sample ID: 280-110865-13 Client Sample ID: AFDV-116Date Analyzed: 06/23/18 13:24 Lab File ID: 06230018.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.24	Peak assignment corrected	meierg	06/23/18 14:36

Lab Sample ID: 280-110865-17 Client Sample ID: AFDV-119Date Analyzed: 06/23/18 16:39 Lab File ID: 06230028.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	2.45	Assign Peak	meierg	06/25/18 04:06

Lab Sample ID: 280-110865-18 Client Sample ID: AFDV-120Date Analyzed: 06/23/18 16:53 Lab File ID: 06230029.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	2.45	Assign Peak	meierg	06/25/18 04:07



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 420253Lab Sample ID: 280-110865-13 DL Client Sample ID: AFDV-116 DLDate Analyzed: 06/27/18 16:52 Lab File ID: 06270016.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.49	Split Peak	perssonk	06/28/18 10:54

Lab Sample ID: 280-110865-17 DL Client Sample ID: AFDV-119 DLDate Analyzed: 06/27/18 17:06 Lab File ID: 06270017.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	2.84	Baseline Smoothing	perssonk	06/28/18 10:54

Lab Sample ID: 280-110865-18 DL Client Sample ID: AFDV-120 DLDate Analyzed: 06/27/18 17:20 Lab File ID: 06270018.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	2.84	Baseline Smoothing	perssonk	06/28/18 10:55



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12 Analysis Batch Number: 408588Lab Sample ID: STD 280-408588/2 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 03/21/18 11:58 Lab File ID: 02.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Orthophosphate as P	13.35	Instrument noise	allena	03/22/18 08:53

Lab Sample ID: STD 280-408588/3 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 03/21/18 12:21 Lab File ID: 03.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Orthophosphate as P	13.45	Peak assignment corrected	allena	03/22/18 08:53



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12 Analysis Batch Number: 418394Lab Sample ID: 280-110865-11 MSD Client Sample ID: AFDV-133 MSDDate Analyzed: 06/13/18 23:57 Lab File ID: 26.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.84	Wrong Peak	jewellc	06/14/18 07:06

Lab Sample ID: CCV 280-418394/29 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/14/18 01:04 Lab File ID: 29.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.62	Wrong Peak	jewellc	06/14/18 07:06

Lab Sample ID: CCV 280-418394/41 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/14/18 05:30 Lab File ID: 41.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.63	Wrong Peak	jewellc	06/14/18 07:10



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12 Analysis Batch Number: 418395Lab Sample ID: 280-110865-11 MS Client Sample ID: AFDV-133 MSDate Analyzed: 06/13/18 23:35 Lab File ID: 25.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	6.03	Peak assignment corrected	phantl	06/14/18 00:07

Lab Sample ID: 280-110865-11 MSD Client Sample ID: AFDV-133 MSDDate Analyzed: 06/13/18 23:57 Lab File ID: 26.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	6.08	Wrong Peak	jewellc	06/14/18 07:05



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>Alk daily lcs 00749</b>	06/26/18	06/20/18	Di Water, Lot na	1000 mL	Alk stk std_00014	4 mL	Alkalinity	200 mg/L
.Alk stk std_00014	04/30/19		Fischer, Lot 172632		(Purchased Reagent)		Alkalinity	50 g/L
<b>FE Cal INT 00495</b>	05/22/18	05/21/18	Di Water, Lot na	500 mL	FE Stock Cal_00004	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock Cal_00004	05/31/21		Hach, Lot A7142		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>FE Cal INT 00498</b>	06/14/18	06/13/18	Di Water, Lot na	500 mL	FE Stock Cal_00004	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock Cal_00004	05/31/21		Hach, Lot A7142		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>FE ICV INT 00498</b>	06/14/18	06/13/18	Di Water, Lot na	500 mL	FE Stock ICV_00002	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock ICV_00002	11/21/23		Fisher, Lot 136285		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>IC CAL cl/so4_00191</b>	03/22/18	03/15/18	Di Water, Lot na	100 mL	IC CL cal_00052	25 mL	Chloride	250 mg/L
.IC CL cal_00052	11/30/18		SPEX CertiPrep, Lot 4-101CL-2X		IC sulfatecal_00050	25 mL	Sulfate	250 mg/L
.IC sulfatecal_00050	11/30/18		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Chloride	1000 mg/L
					(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00203</b>	06/16/18	06/09/18	Di Water, Lot na	100 mL	IC CL cal_00051	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00051	08/30/18		SPEX CertiPrep, Lot 4-72CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00204</b>	06/25/18	06/18/18	Di Water, Lot na	100 mL	IC CL cal_00051	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00051	08/30/18		SPEX CertiPrep, Lot 4-72CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00206</b>	07/07/18	06/30/18	Di Water, Lot na	100 mL	IC CL cal_00051	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00051	08/30/18		SPEX CertiPrep, Lot 4-72CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC Cal low_00355</b>	03/28/18	03/21/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
					IC FL cal_00012	5 mL	Fluoride	50 mg/L
					IC N02 CAL_00041	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
					IC P04 cal_00017	5 mL	Orthophosphate as P	50 mg/L
.IC Br cal_00015	01/31/19		Ricca, Lot 4707D55		(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00012	10/31/18		Ricca, Lot 4704K15		(Purchased Reagent)		Fluoride	1000 mg/L
.IC N02 CAL_00041	04/30/18		RICCA, Lot 4710L20		(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC P04 cal_00017	08/28/19		RICCA, Lot 4708R27		(Purchased Reagent)		Orthophosphate as P	1000 mg/L
<b>IC Cal low_00376</b>	06/18/18	06/11/18	Di Water, Lot NA	100 mL	IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
.IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		(Purchased Reagent)		Nitrate as N	1000 mg/L
<b>IC Cal low_00378</b>	06/26/18	06/19/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
					IC FL cal_00012	5 mL	Fluoride	50 mg/L
.IC Br cal_00015	01/31/19		Ricca, Lot 4707D55		(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00012	10/31/18		Ricca, Lot 4704K15		(Purchased Reagent)		Fluoride	1000 mg/L
<b>IC CL ICV_00014</b>	01/31/19		ERA, Lot 190117		(Purchased Reagent)		Chloride	1000 mg/L
<b>IC ICV 5_00196</b>	03/26/18	03/19/18	Di Water, Lot na	10 mL	IC N03 ICV_00012	0.5 mL	Nitrate as N	50 mg/L
.IC N03 ICV_00012	12/31/18		ERA, Lot 140616		(Purchased Reagent)		Nitrate as N	1000 mg/L



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>IC LCS_01255</b>	06/14/18	06/13/18	Di Water, Lot 27	200 mL	IC Cal low 00376	20 mL	Nitrate as N	5 mg/L
					IC CL cal 00051	20 mL	Chloride	100 mg/L
					IC sulfatecal 00052	20 mL	Sulfate	100 mg/L
.IC Cal low 00376	06/18/18	06/11/18	Di Water, Lot NA	100 mL	IC N03 cal 00018	5 mL	Nitrate as N	50 mg/L
..IC N03 cal 00018	11/30/18		Ricca, Lot 2705D50		(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC CL cal 00051	08/30/18		SPEX CertiPrep, Lot 4-72CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal 00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC LCS_01273</b>	07/04/18	07/03/18	Di Water, Lot 27	200 mL	IC CL cal 00053	20 mL	Chloride	100 mg/L
					IC sulfatecal 00052	20 mL	Sulfate	100 mg/L
.IC CL cal 00053	03/30/19		SPEX CertiPrep, Lot 4-101CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal 00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC S04 ICV_00017</b>	06/30/19		ERA, Lot 210617		(Purchased Reagent)		Sulfate	1000 mg/L
<b>ICMS/MSD WEEK_00537</b>	06/19/18	06/12/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00019	5 mL	Chloride	2499.92 mg/L
							Nitrate as N	500.003 mg/L
							Sulfate	2500.26 mg/L
.IC SPK 6 ANIO_00019	08/23/18	08/23/17	Di Water, Lot NA	1000 mL	IC MS/MSD CL 00002	8.2424 g	Chloride	4999.84 mg/L
					IC MS/MSD N03 00004	6.068 g	Nitrate as N	1000.01 mg/L
					IC MS/MSD S04 00005	9.0704 g	Sulfate	5000.51 mg/L
..IC MS/MSD CL 00002	01/13/21		FISHER, Lot 091363		(Purchased Reagent)		Chloride	0.6066 g/g
..IC MS/MSD N03 00004	10/02/18		FISHER, Lot 035600		(Purchased Reagent)		Nitrate as N	0.1648 g/g
..IC MS/MSD S04 00005	09/29/20		FISHER, Lot 147276		(Purchased Reagent)		Sulfate	0.5513 g/g
<b>ICMS/MSD WEEK_00540</b>	07/09/18	07/02/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00019	5 mL	Chloride	2499.92 mg/L
							Sulfate	2500.26 mg/L
.IC SPK 6 ANIO_00019	08/23/18	08/23/17	Di Water, Lot NA	1000 mL	IC MS/MSD CL 00002	8.2424 g	Chloride	4999.84 mg/L
					IC MS/MSD S04 00005	9.0704 g	Sulfate	5000.51 mg/L
..IC MS/MSD CL 00002	01/13/21		FISHER, Lot 091363		(Purchased Reagent)		Chloride	0.6066 g/g
..IC MS/MSD S04 00005	09/29/20		FISHER, Lot 147276		(Purchased Reagent)		Sulfate	0.5513 g/g
<b>MV-2c1eve+AVA_00035</b>	05/31/18	05/07/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00020	202.5 uL	Acrolein	399.938 ug/mL
					MV-569723 00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL
					MV-569724 00014	160 uL	Vinyl acetate	80 ug/mL
.MV-568720_00020	05/31/18		RESTEK, Lot A0132611		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569723 00003	01/31/20		RESTEK, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724 00014	07/31/18		RESTEK, Lot A0134268		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
<b>MV-2c1eve+AVA_00036</b>	08/31/18	06/01/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00021	202.5 uL	Acrolein	399.938 ug/mL
					MV-569723 00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL
					MV-569724 00015	160 uL	Vinyl acetate	80 ug/mL
.MV-568720_00021	08/31/18		RESTEK, Lot A0135693		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569723 00003	01/31/20		RESTEK, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724 00015	08/31/18		RESTEK, Lot A0135506		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
<b>MV-568718-D_00008</b>	03/31/21		RESTEK, Lot A0118105		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MV-568718-D_00014	05/31/22	RESTEK, Lot A0127975			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
MV-ARCH SS A_00092	09/14/18	03/14/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22	Restek, Lot A0124069			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-ARCH SS A_00095	10/18/18	04/18/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22	Restek, Lot A0124069			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-ARCH SS A_00096	11/12/18	05/12/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22	Restek, Lot A0124069			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-ARCH SS A_00098	12/13/18	06/13/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22	Restek, Lot A0124069			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-ARCH SS A_00099	12/13/18	06/22/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22	Restek, Lot A0124069			(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-BFB_00025							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
MV-BFB_00026							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
MV-Gas/Ket A_00070	08/05/18	02/05/18	P&T Methanol, Lot 177891	10 mL	MV-569721_00004	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
							Bromomethane	40 ug/mL
					MV-569722_00006	160 uL	Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
					MV-569727_00006	640 uL	Vinyl chloride	40 ug/mL
							Cyclohexanone	1600 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
							Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890		(Purchased Reagent)			
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278		(Purchased Reagent)			



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
MV-Gas/Ket A_00073	11/07/18	05/07/18	P&T Methanol, Lot 177891	10 mL	MV-569721_00004	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00006	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890		(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
MV-Gas/Ket A_00074	12/01/18	06/01/18	P&T Methanol, Lot 178178	10 mL	MV-569721_00006	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00008	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486		(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722_00008	10/31/20	RESTEK, Lot A0131502			(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
.MV-569727_00006	03/31/19	RESTEK, Lot A0118487			(Purchased Reagent)		Vinyl chloride	2500 ug/mL
							Cyclohexanone	25000 ug/mL
MV-Gas/Ket A_00075	12/30/18	06/30/18	P&T Methanol, Lot 178178	10 mL	MV-569721_00006	128 uL	Acetone	160 ug/mL
					MV-569722_00008	160 uL	Methyl ethyl ketone (MEK)	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721_00006	10/31/20	RESTEK, Lot A0131486			(Purchased Reagent)		Acetone	12500 ug/mL
.MV-569722_00008	10/31/20	RESTEK, Lot A0131502			(Purchased Reagent)		Methyl ethyl ketone (MEK)	12500 ug/mL
							Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
MV-Gas/Ket B_00040	07/05/18	01/05/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
					MV-569722.sec_00004	160 uL	Methyl ethyl ketone (MEK)	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20	RESTEK, Lot A0113880			(Purchased Reagent)		Acetone	12500 ug/mL
.MV-569722.sec_00004	01/31/20	RESTEK, Lot A0124116			(Purchased Reagent)		Methyl ethyl ketone (MEK)	12500 ug/mL
							Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
MV-Gas/Ket B_00041	08/25/18	02/25/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
					MV-569722.sec_00004	160 uL	Methyl ethyl ketone (MEK)	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20	RESTEK, Lot A0113880			(Purchased Reagent)		Acetone	12500 ug/mL
.MV-569722.sec_00004	01/31/20	RESTEK, Lot A0124116			(Purchased Reagent)		Methyl ethyl ketone (MEK)	12500 ug/mL
							Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
MV-Gas/Ket B_00042	10/21/18	04/21/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
					MV-569722.sec_00004	160 uL	Methyl ethyl ketone (MEK)	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20	RESTEK, Lot A0113880			(Purchased Reagent)		Acetone	12500 ug/mL
.MV-569722.sec_00004	01/31/20	RESTEK, Lot A0124116			(Purchased Reagent)		Methyl ethyl ketone (MEK)	12500 ug/mL
							Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
MV-Gas/Ket B_00043	11/30/18	05/28/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MV-569722.sec_00004	160 uL	Methyl ethyl ketone (MEK)	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722.sec_00004	01/31/20		RESTEK, Lot A0124116		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
<b>MV-Main A_00036</b>	06/30/18	04/27/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1,2-Tetrachloroethane	40 ug/mL
							1,1,1-Trichloroethane	40 ug/mL
							1,1,2,2-Tetrachloroethane	40 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	40 ug/mL
							1,1,2-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,1-Dichloropropene	40 ug/mL
							1,2,3-Trichlorobenzene	40 ug/mL
							1,2,3-Trichloropropane	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2,4-Trimethylbenzene	40 ug/mL
							1,2-Dibromo-3-Chloropropane	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							1,2-Dichloropropane	40 ug/mL
							1,3,5-Trimethylbenzene	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dichloropropane	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	800 ug/mL
							2,2-Dichloropropane	40 ug/mL
							2-Chlorotoluene	40 ug/mL
							2-Methyl-2-propanol	400 ug/mL
							3-Chloro-1-propene	40 ug/mL
							4-Chlorotoluene	40 ug/mL
							4-Isopropyltoluene	40 ug/mL
							Acrylonitrile	400 ug/mL
							Benzene	40 ug/mL
							Bromobenzene	40 ug/mL
							Bromoform	40 ug/mL
							Carbon disulfide	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chlorobromomethane	40 ug/mL
							Chlorodibromomethane	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							cis-1,3-Dichloropropene	40 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cyclohexane	40 ug/mL
							Dibromomethane	40 ug/mL
							Dichlorobromomethane	40 ug/mL
							Ethyl ether	40 ug/mL
							Ethyl methacrylate	40 ug/mL
							Ethylbenzene	40 ug/mL
							Ethylene Dibromide	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexane	40 ug/mL
							Iodomethane	40 ug/mL
							Isobutyl alcohol	1000 ug/mL
							Isopropylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methyl acetate	80 ug/mL
							Methyl tert-butyl ether	40 ug/mL
							Methylcyclohexane	40 ug/mL
							Methylene Chloride	40 ug/mL
							n-Butylbenzene	40 ug/mL
							n-Heptane	40 ug/mL
							N-Propylbenzene	40 ug/mL
							Naphthalene	40 ug/mL
							o-Xylene	40 ug/mL
							sec-Butylbenzene	40 ug/mL
							Styrene	40 ug/mL
							tert-Butylbenzene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Tetrahydrofuran	80 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							trans-1,3-Dichloropropene	40 ug/mL
							trans-1,4-Dichloro-2-butene	40 ug/mL
							Trichloroethene	40 ug/mL
					MV-CUS17739_00002	800 uL	1-Chlorohexane	40 ug/mL
							2-Pentanone	160 ug/mL
							sec-Butyl Alcohol	1200 ug/mL
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
					1,1,1-Trichloroethane	2500 ug/mL		
					1,1,2,2-Tetrachloroethane	2500 ug/mL		
					1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL		
					1,1,2-Trichloroethane	2500 ug/mL		
					1,1-Dichloroethane	2500 ug/mL		
					1,1-Dichloroethene	2500 ug/mL		
					1,1-Dichloropropene	2500 ug/mL		
					1,2,3-Trichlorobenzene	2500 ug/mL		
					1,2,3-Trichloropropane	2500 ug/mL		
					1,2,4-Trichlorobenzene	2500 ug/mL		
					1,2,4-Trimethylbenzene	2500 ug/mL		



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739_00002	07/31/19		Ultra, Lot CR-2819		(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
<b>MV-Main A_00036</b>	06/30/18	04/27/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	Xylenes, Total	80 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		Xylenes, Total	5000 ug/mL
<b>MV-Main A_00037</b>	12/31/18	06/30/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							Ethylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methylene Chloride	40 ug/mL
							o-Xylene	40 ug/mL
							Styrene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
							Xylenes, Total	80 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-Main B_00021	07/31/18	05/14/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	1,1,1-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							Ethylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methylene Chloride	40 ug/mL
							o-Xylene	40 ug/mL
							Styrene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
.MV-569720.sec_00002	07/31/18		RESTEK, Lot A0120604		(Purchased Reagent)		Xylenes, Total	80 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
MV-Supp A_00029	06/30/18	03/04/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00003	160 uL	Xylenes, Total	5000 ug/mL
							1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00003	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00001	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					mv-571994_00001 mv-VO-TAOH-5_00004	240 uL 800 uL	Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
							Ethanol	2400 ug/mL
							cis-1,4-Dichloro-2-butene	80 ug/mL
							Ethylene oxide	4000 ug/mL
							Propene oxide	4000 ug/mL
.mv-570808_00003	06/30/18		Restek, Lot A0123685		(Purchased Reagent)		Tetrahydrothiophene	80 ug/mL
							1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00003	06/30/18		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00001	12/31/18		RESTEK, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00001	06/30/20		RESTEK, Lot A0128797		(Purchased Reagent)		Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00004	08/19/18		SPEX, Lot TS180220004		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL
RSK175methane_00006	09/30/18		Supelco Analytical, Lot 403-102900		(Purchased Reagent)		Methane	650500 ug/L
RSK7gasMathes_00020	10/13/18		Matheson, Lot 9306622072		(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
RSK7gasMathes_00021	11/17/18		Matheson, Lot 9306622291		(Purchased Reagent)		Acetylene	10667 ug/L
							Butane	23807 ug/L
							Ethane	12317 ug/L
							Ethene	11490 ug/L
							isobutylene	22984 ug/L
							Methane	6570.3 ug/L
							Propane	18064 ug/L
RSK7gasMathes_00025	12/01/19		Matheson, Lot 9307628511		(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
RSK7gasMathes_00026	04/03/20		Matheson, Lot 9308630516		(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
SFD CAL INT_01498	09/01/18	06/14/18	Di Water, Lot NA	500 mL	SFD CAL STK_00005	4.1049 g	Sulfide	1096.01 mg/L
.SFD CAL STK_00005	12/31/23		FISHER, Lot 127305		(Purchased Reagent)		Sulfide	0.1335 g/g



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>TOC ICV Std 00033</b>	06/30/18		Ricca, Lot 4706c18		(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm
<b>TOC LCS Std 00041</b>	06/30/20		Ultra Scientific, Lot CS-2402		(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm



# Method 8260B

---

Volatile Organic Compounds (GC/MS)  
by Method 8260B



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): DB-624 (75. ID: 0.53 (mm))

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
AFDV-126	280-110865-1	109	90	96	93
AFDV-126 DL	280-110865-1 DL	100	86	98	104
AFDV-127	280-110865-2	110	94	98	94
AFDV-128	280-110865-3	110	95	96	103
AFDV-128 DL	280-110865-3 DL	108	92	95	101
AFDV-129	280-110865-4	110	95	99	102
AFDV-118	280-110865-5	107	93	95	100
AFDV-124	280-110865-6	110	94	97	103
AFDV-146	280-110865-7	109	91	96	103
AFDV-131	280-110865-8	108	88	98	92
AFDV-131 DL	280-110865-8 DL	113	89	96	90
AFDV-134	280-110865-9	113	94	95	88
AFDV-134 DL	280-110865-9 DL	111	91	89	100
AFDV-132	280-110865-10	110	89	97	89
AFDV-132 DL	280-110865-10 DL	111	92	94	94
AFDV-133	280-110865-11	107	87	93	93
AFDV-133 DL	280-110865-11 DL	110	93	97	101
AFDV-108	280-110865-12	108	93	90	103
AFDV-116	280-110865-13	109	84	97	94
AFDV-147	280-110865-14	112	93	86	99
AFDV-125	280-110865-15	112	93	94	94
AFDV-106	280-110865-16	114	95	92	92
AFDV-106 DL	280-110865-16 DL	112	94	100	102
AFDV-119	280-110865-17	126 X	133 X	113	109
AFDV-119 DL	280-110865-17 DL	114	120	106	104
AFDV-120	280-110865-18	105	109	95	92
AFDV-120 DL	280-110865-18 DL	121 X	125	114	108
AFDV-110	280-110865-19	124 X	131 X	116	110
AFDV-110 DL	280-110865-19 DL	102	111	97	92
AFDV-148	280-110865-20	101	105	94	89
AFDV-145	280-110865-21	97	106	80	97
	MB 280-420036/6	113	90	91	93
	MB 280-420653/6	102	104	98	91
	MB 280-421081/6	96	102	82	95
	LCS 280-420036/4	110	92	106	88

QC LIMITS

DBFM = Dibromofluoromethane (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)

77-120  
70-127  
80-125  
78-120

# Column to be used to flag recovery values



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low  
 GC Column (1): RTX-624 ID: 0.53 (mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
	LCS 280-420653/4	97	102	94	88
	LCS 280-421081/4	93	99	83	98
	LCSD 280-421081/5	96	104	84	102
AFDV-126 MS	280-110865-1 MS	105	93	103	93
	280-110720-D-1 MS	112	119	105	99
	280-111289-C-6 MS	87	134 X	82	110
AFDV-126 MSD	280-110865-1 MSD	110	96	107	103
	280-110720-D-1 MSD	102	107	95	90
	280-111289-C-6 MSD	84	129 X	80	107

DBFM = Dibromofluoromethane (Surr)  
 DCA = 1,2-Dichloroethane-d4 (Surr)  
 TOL = Toluene-d8 (Surr)  
 BFB = 4-Bromofluorobenzene (Surr)

QC LIMITS  
 77-120  
 70-127  
 80-125  
 78-120

# Column to be used to flag recovery values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: H7788.D  
 Lab ID: LCS 280-420036/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.30	106	65-135	
1,1-Dichloroethane	5.00	4.75	95	65-135	
1,1-Dichloroethene	5.00	5.95	119	65-136	
1,2-Dichloroethane	5.00	4.80	96	65-135	
Methyl ethyl ketone (MEK)	20.0	21.0	105	44-177	
Acetone	20.0	20.4	102	39-156	
Benzene	5.00	5.35	107	65-135	
Chloroethane	5.00	5.53	111	46-136	
cis-1,2-Dichloroethene	5.00	5.66	113	65-135	
Ethylbenzene	5.00	4.92	98	65-135	
Methylene Chloride	5.00	5.70	114	54-141	
m-Xylene & p-Xylene	5.00	4.67	93	65-135	
o-Xylene	5.00	4.94	99	65-135	
Styrene	5.00	4.96	99	65-135	
Tetrachloroethene	5.00	5.64	113	65-135	
Toluene	5.00	5.48	110	65-135	
trans-1,2-Dichloroethene	5.00	5.41	108	65-135	
Trichloroethene	5.00	5.26	105	65-135	
Vinyl chloride	5.00	4.47	89	40-137	
Xylenes, Total	10.0	9.61	96	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2064.D  
 Lab ID: LCS 280-420653/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.37	107	65-135	
1,1-Dichloroethane	5.00	4.80	96	65-135	
1,1-Dichloroethene	5.00	4.77	95	65-136	
1,2-Dichloroethane	5.00	5.78	116	65-135	
Methyl ethyl ketone (MEK)	20.0	22.1	110	44-177	
Acetone	20.0	20.7	103	39-156	
Benzene	5.00	4.79	96	65-135	
Chloroethane	5.00	4.80	96	46-136	
cis-1,2-Dichloroethene	5.00	4.77	95	65-135	
Ethylbenzene	5.00	4.42	88	65-135	
Methylene Chloride	5.00	4.99	100	54-141	
m-Xylene & p-Xylene	5.00	4.35	87	65-135	
o-Xylene	5.00	4.39	88	65-135	
Styrene	5.00	4.10	82	65-135	
Tetrachloroethene	5.00	4.72	94	65-135	
Toluene	5.00	4.84	97	65-135	
trans-1,2-Dichloroethene	5.00	4.94	99	65-135	
Trichloroethene	5.00	5.08	102	65-135	
Vinyl chloride	5.00	4.58	92	40-137	
Xylenes, Total	10.0	8.74	87	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5399.D  
 Lab ID: LCS 280-421081/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	4.79	96	65-135	
1,1-Dichloroethane	5.00	4.66	93	65-135	
1,1-Dichloroethene	5.00	4.30	86	65-136	
1,2-Dichloroethane	5.00	4.02	80	65-135	
Methyl ethyl ketone (MEK)	20.0	13.3	66	44-177	
Acetone	20.0	13.6	68	39-156	
Benzene	5.00	4.06	81	65-135	
Chloroethane	5.00	4.59	92	46-136	
cis-1,2-Dichloroethene	5.00	4.27	85	65-135	
Ethylbenzene	5.00	4.66	93	65-135	
Methylene Chloride	5.00	4.33	87	54-141	
m-Xylene & p-Xylene	5.00	4.85	97	65-135	
o-Xylene	5.00	4.61	92	65-135	
Styrene	5.00	4.27	85	65-135	
Tetrachloroethene	5.00	5.34	107	65-135	
Toluene	5.00	4.66	93	65-135	
trans-1,2-Dichloroethene	5.00	4.48	90	65-135	
Trichloroethene	5.00	5.02	100	65-135	
Vinyl chloride	5.00	4.68	94	40-137	
Xylenes, Total	10.0	9.46	95	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5400.D  
 Lab ID: LCSD 280-421081/5 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	4.89	98	2	20	65-135	
1,1-Dichloroethane	5.00	4.98	100	7	21	65-135	
1,1-Dichloroethene	5.00	4.29	86	0	20	65-136	
1,2-Dichloroethane	5.00	4.34	87	8	20	65-135	
Methyl ethyl ketone (MEK)	20.0	14.0	70	5	32	44-177	
Acetone	20.0	14.1	71	4	23	39-156	
Benzene	5.00	4.42	88	9	20	65-135	
Chloroethane	5.00	4.74	95	3	25	46-136	
cis-1,2-Dichloroethene	5.00	4.58	92	7	20	65-135	
Ethylbenzene	5.00	4.86	97	4	20	65-135	
Methylene Chloride	5.00	4.46	89	3	26	54-141	
m-Xylene & p-Xylene	5.00	4.98	100	3	20	65-135	
o-Xylene	5.00	4.65	93	1	20	65-135	
Styrene	5.00	4.41	88	3	26	65-135	
Tetrachloroethene	5.00	5.60	112	5	20	65-135	
Toluene	5.00	4.89	98	5	20	65-135	
trans-1,2-Dichloroethene	5.00	4.81	96	7	24	65-135	
Trichloroethene	5.00	5.53	111	10	20	65-135	
Vinyl chloride	5.00	5.16	103	10	24	40-137	
Xylenes, Total	10.0	9.63	96	2	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: H7793.D  
 Lab ID: 280-110865-1 MS Client ID: AFDV-126 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	1000	1200	2130	97	65-135	
1,1-Dichloroethane	1000	3000	3340	37	65-135	F1
1,1-Dichloroethene	1000	530	1650	111	65-136	
1,2-Dichloroethane	1000	ND	961	96	65-135	
Methyl ethyl ketone (MEK)	4000	ND	3250	81	44-177	
Acetone	4000	ND	4050	101	39-156	
Benzene	1000	33 J	1100	107	65-135	
Chloroethane	1000	ND	1170	117	46-136	
cis-1,2-Dichloroethene	1000	56000	47500	-867	65-135	E 4
Ethylbenzene	1000	1500	2530	108	65-135	
Methylene Chloride	1000	72 J	1140	107	54-141	
m-Xylene & p-Xylene	1000	680	1780	110	65-135	
o-Xylene	1000	440	1520	108	65-135	
Styrene	1000	ND	1040	104	65-135	
Tetrachloroethene	1000	ND	1070	107	65-135	
Toluene	1000	1700	2660	98	65-135	
trans-1,2-Dichloroethene	1000	45 J	1210	117	65-135	
Trichloroethene	1000	ND	1050	105	65-135	
Vinyl chloride	1000	17000	16500	-22	40-137	E 4
Xylenes, Total	2000	1100	3300	109	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2067.D  
 Lab ID: 280-110720-D-1 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	6.19	124	65-135	
1,1-Dichloroethane	5.00	ND	5.27	105	65-135	
1,1-Dichloroethene	5.00	ND	5.21	104	65-136	
1,2-Dichloroethane	5.00	ND	6.44	129	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	23.1	116	44-177	
Acetone	20.0	ND	24.3	122	39-156	
Benzene	5.00	ND	5.06	101	65-135	
Chloroethane	5.00	ND	5.02	100	46-136	
cis-1,2-Dichloroethene	5.00	ND	5.31	106	65-135	
Ethylbenzene	5.00	ND	4.75	95	65-135	
Methylene Chloride	5.00	ND	5.24	105	54-141	
m-Xylene & p-Xylene	5.00	ND	4.75	95	65-135	
o-Xylene	5.00	ND	4.59	92	65-135	
Styrene	5.00	ND	4.42	88	65-135	
Tetrachloroethene	5.00	ND	4.89	98	65-135	
Toluene	5.00	ND	5.12	102	65-135	
trans-1,2-Dichloroethene	5.00	ND	5.23	105	65-135	
Trichloroethene	5.00	6.8	10.9	84	65-135	
Vinyl chloride	5.00	ND	4.61	92	40-137	
Xylenes, Total	10.0	ND	9.34	93	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5404.D  
 Lab ID: 280-111289-C-6 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	4.91	98	65-135	
1,1-Dichloroethane	5.00	ND	5.01	100	65-135	
1,1-Dichloroethene	5.00	ND	4.51	90	65-136	
1,2-Dichloroethane	5.00	ND	21.1	423	65-135	F1
Methyl ethyl ketone (MEK)	20.0	ND	36.4	182	44-177	F1
Acetone	20.0	ND	416	2080	39-156	E F1
Benzene	5.00	140	132	-139	65-135	E 4
Chloroethane	5.00	ND	6.02	120	46-136	
cis-1,2-Dichloroethene	5.00	ND	4.22	84	65-135	
Ethylbenzene	5.00	8.4	12.6	83	65-135	
Methylene Chloride	5.00	ND	6.15	123	54-141	
m-Xylene & p-Xylene	5.00	21	25.1	80	65-135	4
o-Xylene	5.00	3.9	8.23	87	65-135	
Styrene	5.00	ND	4.45	89	65-135	
Tetrachloroethene	5.00	ND	5.37	107	65-135	
Toluene	5.00	21	23.2	42	65-135	4
trans-1,2-Dichloroethene	5.00	ND	3.91	78	65-135	
Trichloroethene	5.00	ND	5.65	113	65-135	
Vinyl chloride	5.00	ND	6.13	123	40-137	
Xylenes, Total	10.0	25	33.3	84	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: H7794.D  
 Lab ID: 280-110865-1 MSD Client ID: AFDV-126 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	1000	2280	112	6	20	65-135	
1,1-Dichloroethane	1000	3960	99	17	21	65-135	
1,1-Dichloroethene	1000	1770	124	7	20	65-136	
1,2-Dichloroethane	1000	1010	101	5	20	65-135	
Methyl ethyl ketone (MEK)	4000	3850	96	17	32	44-177	
Acetone	4000	4320	108	6	23	39-156	
Benzene	1000	1170	114	7	20	65-135	
Chloroethane	1000	1170	117	0	25	46-136	
cis-1,2-Dichloroethene	1000	55000	-119	15	20	65-135	E 4
Ethylbenzene	1000	2660	121	5	20	65-135	
Methylene Chloride	1000	1230	116	8	26	54-141	
m-Xylene & p-Xylene	1000	1890	121	6	20	65-135	
o-Xylene	1000	1620	119	7	20	65-135	
Styrene	1000	1100	110	6	26	65-135	
Tetrachloroethene	1000	1140	114	7	20	65-135	
Toluene	1000	2800	112	5	20	65-135	
trans-1,2-Dichloroethene	1000	1290	124	6	24	65-135	
Trichloroethene	1000	1130	113	7	20	65-135	
Vinyl chloride	1000	17400	67	5	24	40-137	E 4
Xylenes, Total	2000	3510	120	6	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2068.D  
 Lab ID: 280-110720-D-1 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	5.89	118	5	20	65-135	
1,1-Dichloroethane	5.00	5.12	102	3	21	65-135	
1,1-Dichloroethene	5.00	4.90	98	6	20	65-136	
1,2-Dichloroethane	5.00	6.33	127	2	20	65-135	
Methyl ethyl ketone (MEK)	20.0	23.6	118	2	32	44-177	
Acetone	20.0	25.8	129	6	23	39-156	
Benzene	5.00	4.99	100	1	20	65-135	
Chloroethane	5.00	4.80	96	5	25	46-136	
cis-1,2-Dichloroethene	5.00	5.15	103	3	20	65-135	
Ethylbenzene	5.00	4.54	91	4	20	65-135	
Methylene Chloride	5.00	5.09	102	3	26	54-141	
m-Xylene & p-Xylene	5.00	4.62	92	3	20	65-135	
o-Xylene	5.00	4.56	91	1	20	65-135	
Styrene	5.00	4.31	86	2	26	65-135	
Tetrachloroethene	5.00	4.79	96	2	20	65-135	
Toluene	5.00	5.04	101	2	20	65-135	
trans-1,2-Dichloroethene	5.00	5.00	100	4	24	65-135	
Trichloroethene	5.00	10.6	77	3	20	65-135	
Vinyl chloride	5.00	4.65	93	1	24	40-137	
Xylenes, Total	10.0	9.18	92	2	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5405.D  
 Lab ID: 280-111289-C-6 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	4.83	97	1	20	65-135	
1,1-Dichloroethane	5.00	4.95	99	1	21	65-135	
1,1-Dichloroethene	5.00	4.35	87	4	20	65-136	
1,2-Dichloroethane	5.00	20.1	403	5	20	65-135	F1
Methyl ethyl ketone (MEK)	20.0	51.0	255	33	32	44-177	F1 F2
Acetone	20.0	385	1926	8	23	39-156	E F1
Benzene	5.00	122	-331	8	20	65-135	E 4
Chloroethane	5.00	5.76	115	4	25	46-136	
cis-1,2-Dichloroethene	5.00	4.41	88	4	20	65-135	
Ethylbenzene	5.00	11.8	68	6	20	65-135	
Methylene Chloride	5.00	5.87	117	5	26	54-141	
m-Xylene & p-Xylene	5.00	23.7	54	5	20	65-135	4
o-Xylene	5.00	8.00	82	3	20	65-135	
Styrene	5.00	4.45	89	0	26	65-135	
Tetrachloroethene	5.00	5.50	110	2	20	65-135	
Toluene	5.00	22.6	28	3	20	65-135	4
trans-1,2-Dichloroethene	5.00	3.88	78	1	24	65-135	
Trichloroethene	5.00	5.72	114	1	20	65-135	
Vinyl chloride	5.00	6.00	120	2	24	40-137	
Xylenes, Total	10.0	31.7	68	5	20	65-135	

# Column to be used to flag recovery and RPD values



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: H7789.D Lab Sample ID: MB 280-420036/6  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: VMS\_H Date Analyzed: 06/26/2018 10:04  
 GC Column: DB-624 (75.53) ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-420036/4	H7788.D	06/26/2018 09:43
AFDV-126	280-110865-1	H7791.D	06/26/2018 10:51
AFDV-126 DL	280-110865-1 DL	H7792.D	06/26/2018 11:13
AFDV-126 MS	280-110865-1 MS	H7793.D	06/26/2018 11:34
AFDV-126 MSD	280-110865-1 MSD	H7794.D	06/26/2018 11:56
AFDV-127	280-110865-2	H7795.D	06/26/2018 12:17
AFDV-128	280-110865-3	H7796.D	06/26/2018 12:39
AFDV-128 DL	280-110865-3 DL	H7797.D	06/26/2018 13:00
AFDV-129	280-110865-4	H7798.D	06/26/2018 13:22
AFDV-118	280-110865-5	H7799.D	06/26/2018 13:43
AFDV-124	280-110865-6	H7800.D	06/26/2018 14:05
AFDV-146	280-110865-7	H7801.D	06/26/2018 14:26
AFDV-131	280-110865-8	H7802.D	06/26/2018 14:48
AFDV-131 DL	280-110865-8 DL	H7803.D	06/26/2018 15:09
AFDV-134	280-110865-9	H7804.D	06/26/2018 15:31
AFDV-134 DL	280-110865-9 DL	H7805.D	06/26/2018 15:53
AFDV-132	280-110865-10	H7806.D	06/26/2018 16:14
AFDV-132 DL	280-110865-10 DL	H7807.D	06/26/2018 16:36
AFDV-133	280-110865-11	H7808.D	06/26/2018 16:58
AFDV-133 DL	280-110865-11 DL	H7809.D	06/26/2018 17:19
AFDV-108	280-110865-12	H7810.D	06/26/2018 17:41
AFDV-116	280-110865-13	H7811.D	06/26/2018 18:02
AFDV-147	280-110865-14	H7812.D	06/26/2018 18:24
AFDV-125	280-110865-15	H7813.D	06/26/2018 18:45
AFDV-106	280-110865-16	H7814.D	06/26/2018 19:07
AFDV-106 DL	280-110865-16 DL	H7815.D	06/26/2018 19:29



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_2065.D Lab Sample ID: MB 280-420653/6  
 Matrix: Water Heated Purge: (Y/N) Y  
 Instrument ID: VMS\_MS9 Date Analyzed: 06/29/2018 21:50  
 GC Column: RTX-624 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-420653/4	MS9_2064.D	06/29/2018 21:29
	280-110720-D-1 MS	MS9_2067.D	06/29/2018 23:40
	280-110720-D-1 MSD	MS9_2068.D	06/30/2018 00:01
AFDV-119	280-110865-17	MS9_2071.D	06/30/2018 01:47
AFDV-119 DL	280-110865-17 DL	MS9_2072.D	06/30/2018 02:07
AFDV-120	280-110865-18	MS9_2074.D	06/30/2018 02:28
AFDV-120 DL	280-110865-18 DL	MS9_2075.D	06/30/2018 02:49
AFDV-110	280-110865-19	MS9_2076.D	06/30/2018 03:10
AFDV-110 DL	280-110865-19 DL	MS9_2077.D	06/30/2018 03:31
AFDV-148	280-110865-20	MS9_2078.D	06/30/2018 03:51



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab File ID: Q5401.D Lab Sample ID: MB 280-421081/6  
Matrix: Water Heated Purge: (Y/N) N  
Instrument ID: VMS\_Q Date Analyzed: 07/04/2018 11:04  
GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-421081/4	Q5399.D	07/04/2018 10:19
	LCSD 280-421081/5	Q5400.D	07/04/2018 10:42
	280-111289-C-6 MS	Q5404.D	07/04/2018 12:13
	280-111289-C-6 MSD	Q5405.D	07/04/2018 12:36
AFDV-145	280-110865-21	Q5425.D	07/04/2018 20:07



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: H6504.D BFB Injection Date: 05/21/2018  
 Instrument ID: VMS\_H BFB Injection Time: 07:24  
 Analysis Batch No.: 415628

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.3
75	30.0 - 60.0 % of mass 95	47.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.3
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	57.5
175	5.0 - 9.0 % of mass 174	4.4 (7.7) 1
176	95.0 - 101.0 % of mass 174	56.0 (97.4) 1
177	5.0 - 9.0 % of mass 176	3.9 (7.0) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 280-415628/10	H6508.D	05/21/2018	08:40
	IC 280-415628/11	H6509.D	05/21/2018	09:02
	IC 280-415628/12	H6510.D	05/21/2018	09:24
	ICIS 280-415628/13	H6511.D	05/21/2018	09:45
	IC 280-415628/14	H6512.D	05/21/2018	10:07
	IC 280-415628/15	H6513.D	05/21/2018	10:28
	ICV 280-415628/16	H6514.D	05/21/2018	10:50



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: H7633.D BFB Injection Date: 06/21/2018  
 Instrument ID: VMS\_H BFB Injection Time: 08:34  
 Analysis Batch No.: 419443

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	20.8
75	30.0 - 60.0 % of mass 95	52.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	5.9
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	68.0
175	5.0 - 9.0 % of mass 174	4.9 (7.2) 1
176	95.0 - 101.0 % of mass 174	67.7 (99.7) 1
177	5.0 - 9.0 % of mass 176	4.9 (7.2) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD003 280-419443/10	H7636.D	06/21/2018	09:50
	STD01 280-419443/11	H7637.D	06/21/2018	10:11
	STD02 280-419443/12	H7638.D	06/21/2018	10:33
	STD05 280-419443/13	H7639.D	06/21/2018	10:54
	ICIS 280-419443/14	H7640.D	06/21/2018	11:15
	STD30 280-419443/15	H7641.D	06/21/2018	11:37
	STD60 280-419443/16	H7642.D	06/21/2018	11:58
	ICV 280-419443/17	H7644.D	06/21/2018	12:41



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab File ID: H7784.D BFB Injection Date: 06/26/2018  
Instrument ID: VMS\_H BFB Injection Time: 08:15  
Analysis Batch No.: 420036

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	18.7
75	30.0 - 60.0 % of mass 95	51.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.4
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	78.1
175	5.0 - 9.0 % of mass 174	5.7 (7.3) 1
176	95.0 - 101.0 % of mass 174	76.2 (97.6) 1
177	5.0 - 9.0 % of mass 176	5.6 (7.4) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-420036/2	H7786.D	06/26/2018	09:00
	CCV 280-420036/3	H7787.D	06/26/2018	09:21
	LCS 280-420036/4	H7788.D	06/26/2018	09:43
	MB 280-420036/6	H7789.D	06/26/2018	10:04
AFDV-126	280-110865-1	H7791.D	06/26/2018	10:51
AFDV-126 DL	280-110865-1 DL	H7792.D	06/26/2018	11:13
AFDV-126 MS	280-110865-1 MS	H7793.D	06/26/2018	11:34
AFDV-126 MSD	280-110865-1 MSD	H7794.D	06/26/2018	11:56
AFDV-127	280-110865-2	H7795.D	06/26/2018	12:17
AFDV-128	280-110865-3	H7796.D	06/26/2018	12:39
AFDV-128 DL	280-110865-3 DL	H7797.D	06/26/2018	13:00
AFDV-129	280-110865-4	H7798.D	06/26/2018	13:22
AFDV-118	280-110865-5	H7799.D	06/26/2018	13:43
AFDV-124	280-110865-6	H7800.D	06/26/2018	14:05
AFDV-146	280-110865-7	H7801.D	06/26/2018	14:26
AFDV-131	280-110865-8	H7802.D	06/26/2018	14:48
AFDV-131 DL	280-110865-8 DL	H7803.D	06/26/2018	15:09
AFDV-134	280-110865-9	H7804.D	06/26/2018	15:31
AFDV-134 DL	280-110865-9 DL	H7805.D	06/26/2018	15:53
AFDV-132	280-110865-10	H7806.D	06/26/2018	16:14
AFDV-132 DL	280-110865-10 DL	H7807.D	06/26/2018	16:36
AFDV-133	280-110865-11	H7808.D	06/26/2018	16:58
AFDV-133 DL	280-110865-11 DL	H7809.D	06/26/2018	17:19
AFDV-108	280-110865-12	H7810.D	06/26/2018	17:41
AFDV-116	280-110865-13	H7811.D	06/26/2018	18:02
AFDV-147	280-110865-14	H7812.D	06/26/2018	18:24
AFDV-125	280-110865-15	H7813.D	06/26/2018	18:45
AFDV-106	280-110865-16	H7814.D	06/26/2018	19:07



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: H7784.D BFB Injection Date: 06/26/2018  
 Instrument ID: VMS\_H BFB Injection Time: 08:15  
 Analysis Batch No.: 420036

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.7	
75	30.0 - 60.0 % of mass 95	51.0	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.4	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	78.1	
175	5.0 - 9.0 % of mass 174	5.7	(7.3) 1
176	95.0 - 101.0 % of mass 174	76.2	(97.6) 1
177	5.0 - 9.0 % of mass 176	5.6	(7.4) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
AFDV-106 DL	280-110865-16 DL	H7815.D	06/26/2018	19:29



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_7339.D BFB Injection Date: 03/19/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 06:37  
 Analysis Batch No.: 408278

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	17.4
75	30.0 - 60.0 % of mass 95	47.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	5.3
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	79.7
175	5.0 - 9.0 % of mass 174	6.2 (7.7) 1
176	95.0 - 101.0 % of mass 174	76.7 (96.3) 1
177	5.0 - 9.0 % of mass 176	5.5 (7.1) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD 280-408278/18	MS9_7349.D	03/19/2018	09:57
	STD 280-408278/19	MS9_7350.D	03/19/2018	10:17
	STD 280-408278/20	MS9_7351.D	03/19/2018	10:38
	ICIS 280-408278/21	MS9_7352.D	03/19/2018	10:59
	STD 280-408278/22	MS9_7353.D	03/19/2018	11:20
	STD 280-408278/23	MS9_7354.D	03/19/2018	11:40
	ICV 280-408278/24	MS9_7355.D	03/19/2018	12:01



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_0683.D BFB Injection Date: 05/30/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 19:18  
 Analysis Batch No.: 416844

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	20.9
75	30.0 - 60.0 % of mass 95	48.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.5
173	Less than 2.0 % of mass 174	1.1 (1.2) 1
174	50.0 - 120.00 % of mass 95	94.4
175	5.0 - 9.0 % of mass 174	8.2 (8.7) 1
176	95.0 - 101.0 % of mass 174	90.6 (95.9) 1
177	5.0 - 9.0 % of mass 176	7.4 (8.2) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD60 280-416844/10	MS9_0688.D	05/30/2018	23:13
	STD30 280-416844/11	MS9_0689.D	05/30/2018	23:34
	ICIS 280-416844/12	MS9_0690.D	05/30/2018	23:55
	STD5 280-416844/13	MS9_0691.D	05/31/2018	00:16
	STD2 280-416844/14	MS9_0692.D	05/31/2018	00:36
	STD1 280-416844/15	MS9_0693.D	05/31/2018	00:57
	STD03 280-416844/16	MS9_0694.D	05/31/2018	01:18
	ICV 280-416844/17	MS9_0695.D	05/31/2018	02:52



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_1292.D BFB Injection Date: 06/13/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 19:44  
 Analysis Batch No.: 418481

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	22.7
75	30.0 - 60.0 % of mass 95	52.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.9
173	Less than 2.0 % of mass 174	0.2 (0.2) 1
174	50.0 - 120.00 % of mass 95	93.9
175	5.0 - 9.0 % of mass 174	8.3 (8.8) 1
176	95.0 - 101.0 % of mass 174	89.8 (95.5) 1
177	5.0 - 9.0 % of mass 176	7.0 (7.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD2 280-418481/10	MS9_1296.D	06/13/2018	21:22
	STD5 280-418481/11	MS9_1297.D	06/13/2018	21:43
	STD10 280-418481/12	MS9_1298.D	06/13/2018	22:04
	STD30 280-418481/13	MS9_1299.D	06/13/2018	22:25
	STD60 280-418481/14	MS9_1300.D	06/13/2018	22:46
	ICV 280-418481/15	MS9_1301.D	06/13/2018	23:07



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_2059.D BFB Injection Date: 06/29/2018  
Instrument ID: VMS\_MS9 BFB Injection Time: 19:40  
Analysis Batch No.: 420653

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	24.2
75	30.0 - 60.0 % of mass 95	58.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.3
173	Less than 2.0 % of mass 174	1.1 (1.2) 1
174	50.0 - 120.00 % of mass 95	91.2
175	5.0 - 9.0 % of mass 174	7.4 (8.1) 1
176	95.0 - 101.0 % of mass 174	90.9 (99.6) 1
177	5.0 - 9.0 % of mass 176	6.8 (7.5) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-420653/3	MS9_2062.D	06/29/2018	20:41
	CCV 280-420653/2	MS9_2063.D	06/29/2018	21:08
	LCS 280-420653/4	MS9_2064.D	06/29/2018	21:29
	MB 280-420653/6	MS9_2065.D	06/29/2018	21:50
	280-110720-D-1 MS	MS9_2067.D	06/29/2018	23:40
	280-110720-D-1 MSD	MS9_2068.D	06/30/2018	00:01
AFDV-119	280-110865-17	MS9_2071.D	06/30/2018	01:47
AFDV-119 DL	280-110865-17 DL	MS9_2072.D	06/30/2018	02:07
AFDV-120	280-110865-18	MS9_2074.D	06/30/2018	02:28
AFDV-120 DL	280-110865-18 DL	MS9_2075.D	06/30/2018	02:49
AFDV-110	280-110865-19	MS9_2076.D	06/30/2018	03:10
AFDV-110 DL	280-110865-19 DL	MS9_2077.D	06/30/2018	03:31
AFDV-148	280-110865-20	MS9_2078.D	06/30/2018	03:51



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q4999.D BFB Injection Date: 06/25/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 08:50  
 Analysis Batch No.: 419807

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	17.3
75	30.0 - 60.0 % of mass 95	44.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.9
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	65.8
175	5.0 - 9.0 % of mass 174	4.8 (7.2) 1
176	95.0 - 101.0 % of mass 174	63.9 (97.1) 1
177	5.0 - 9.0 % of mass 176	5.0 (7.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD010 280-419807/19	Q5010.D	06/25/2018	12:56
	STD020 280-419807/20	Q5011.D	06/25/2018	13:19
	ICIS 280-419807/22	Q5013.D	06/25/2018	14:05
	STD30 280-419807/23	Q5014.D	06/25/2018	14:28
	STD60 280-419807/24	Q5015.D	06/25/2018	14:51
	STD050 280-419807/21	Q5016.D	06/25/2018	15:14
	ICV 280-419807/25	Q5018.D	06/25/2018	15:59



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q5042.D BFB Injection Date: 06/26/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 12:51  
 Analysis Batch No.: 420110

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	16.7
75	30.0 - 60.0 % of mass 95	44.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.4
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	66.8
175	5.0 - 9.0 % of mass 174	4.8 (7.2) 1
176	95.0 - 101.0 % of mass 174	65.6 (98.2) 1
177	5.0 - 9.0 % of mass 176	4.9 (7.5) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD003 280-420110/12	Q5046.D	06/26/2018	14:23
	STD010 280-420110/13	Q5047.D	06/26/2018	14:44
	STD020 280-420110/14	Q5048.D	06/26/2018	15:05
	STD050 280-420110/15	Q5049.D	06/26/2018	15:28
	STD10 280-420110/16	Q5050.D	06/26/2018	15:51
	STD60 280-420110/18	Q5052.D	06/26/2018	16:38
	STD30 280-420110/17	Q5053.D	06/26/2018	17:02
	ICV 280-420110/19	Q5055.D	06/26/2018	17:48



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q5396.D BFB Injection Date: 07/04/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 09:24  
 Analysis Batch No.: 421081

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	17.9
75	30.0 - 60.0 % of mass 95	45.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.3
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	71.4
175	5.0 - 9.0 % of mass 174	5.0 (7.0) 1
176	95.0 - 101.0 % of mass 174	68.1 (95.5) 1
177	5.0 - 9.0 % of mass 176	4.3 (6.3) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-421081/2	Q5397.D	07/04/2018	09:33
	CCV 280-421081/3	Q5398.D	07/04/2018	09:56
	LCS 280-421081/4	Q5399.D	07/04/2018	10:19
	LCSD 280-421081/5	Q5400.D	07/04/2018	10:42
	MB 280-421081/6	Q5401.D	07/04/2018	11:04
	280-111289-C-6 MS	Q5404.D	07/04/2018	12:13
	280-111289-C-6 MSD	Q5405.D	07/04/2018	12:36
AFDV-145	280-110865-21	Q5425.D	07/04/2018	20:07



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-415628/13 Date Analyzed: 05/21/2018 09:45  
 Instrument ID: VMS\_H GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 Lab File ID (Standard): H6511.D Heated Purge: (Y/N) N  
 Calibration ID: 32457

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	212615	3.93	1349711	6.68	321457	11.02	
UPPER LIMIT	425230	4.43	2699422	7.18	642914	11.52	
LOWER LIMIT	106308	3.43	674856	6.18	160729	10.52	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-415628/16		228807	3.93	1272741	6.68	318745	11.04

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Sample No.: ICIS 280-415628/13 Date Analyzed: 05/21/2018 09:45  
Instrument ID: VMS\_H GC Column: DB-624 (75.53) ID: 0.53 (mm)  
Lab File ID (Standard): H6511.D Heated Purge: (Y/N) N  
Calibration ID: 32457

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	467402	14.05				
UPPER LIMIT	934804	14.55				
LOWER LIMIT	233701	13.55				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-415628/16		480329	14.05			

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419443/14 Date Analyzed: 06/21/2018 11:15  
 Instrument ID: VMS\_H GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 Lab File ID (Standard): H7640.D Heated Purge: (Y/N) N  
 Calibration ID: 32767

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		121072	3.93	732101	6.68	192477	11.04
UPPER LIMIT		242144	4.43	1464202	7.18	384954	11.54
LOWER LIMIT		60536	3.43	366051	6.18	96239	10.54
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419443/17		140510	3.95	734434	6.68	197568	11.01
CCV 280-420036/2		177141	3.92	908671	6.67	258155	11.00
CCV 280-420036/3		125212	3.93	764856	6.66	215299	11.00
LCS 280-420036/4		139294	3.93	774711	6.67	219511	11.00
MB 280-420036/6		144510	3.95	787230	6.67	253092	11.00
280-110865-1	AFDV-126	164987	3.95	801991	6.67	260149	11.00
280-110865-1 DL	AFDV-126 DL	168243	3.95	874627	6.67	273857	11.00
280-110865-1 MS	AFDV-126 MS	185647	3.93	892241	6.67	255557	11.00
280-110865-1 MSD	AFDV-126 MSD	171825	3.93	852130	6.67	245960	11.02
280-110865-2	AFDV-127	202244	3.93	912133	6.68	283520	11.02
280-110865-3	AFDV-128	169050	3.93	874727	6.68	274074	11.01
280-110865-3 DL	AFDV-128 DL	189503	3.95	893162	6.68	283058	11.02
280-110865-4	AFDV-129	169849	3.95	864423	6.68	264687	11.01
280-110865-5	AFDV-118	173974	3.93	898799	6.69	278908	11.02
280-110865-6	AFDV-124	173151	3.93	845970	6.68	265257	11.03
280-110865-7	AFDV-146	160742	3.97	872632	6.68	276240	11.02
280-110865-8	AFDV-131	149835	3.96	797114	6.70	252765	11.03
280-110865-8 DL	AFDV-131 DL	150859	3.98	732316	6.70	244205	11.03
280-110865-9	AFDV-134	168260	3.95	680120	6.70	234401	11.03
280-110865-9 DL	AFDV-134 DL	169270	3.95	776848	6.70	268200	11.03
280-110865-10	AFDV-132	149165	3.96	782891	6.70	262175	11.03
280-110865-10 DL	AFDV-132 DL	179972	3.96	794987	6.70	259843	11.03
280-110865-11	AFDV-133	163426	3.97	813453	6.70	269928	11.04
280-110865-11 DL	AFDV-133 DL	163467	3.97	849330	6.68	269647	11.04
280-110865-12	AFDV-108	178957	3.93	797498	6.70	258709	11.03
280-110865-13	AFDV-116	117354	3.95	704079	6.70	218631	11.03
280-110865-14	AFDV-147	206353	3.95	894499	6.70	288702	11.03
280-110865-15	AFDV-125	189151	3.93	784216	6.69	255360	11.04

TBAd9 = TBA-d9 (IS)

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419443/14 Date Analyzed: 06/21/2018 11:15  
 Instrument ID: VMS\_H GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 Lab File ID (Standard): H7640.D Heated Purge: (Y/N) N  
 Calibration ID: 32767

	TBA <sub>d</sub> 9		FB		CBN <sub>Zd</sub> 5	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	121072	3.93	732101	6.68	192477	11.04
UPPER LIMIT	242144	4.43	1464202	7.18	384954	11.54
LOWER LIMIT	60536	3.43	366051	6.18	96239	10.54
LAB SAMPLE ID	CLIENT SAMPLE ID					
280-110865-16	AFDV-106		171010	3.95	783939	6.70
280-110865-16 DL	AFDV-106 DL		173019	3.96	868202	6.70
					263497	11.03
					270914	11.03

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419443/14 Date Analyzed: 06/21/2018 11:15  
 Instrument ID: VMS\_H GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 Lab File ID (Standard): H7640.D Heated Purge: (Y/N) N  
 Calibration ID: 32767

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		351263	14.07				
UPPER LIMIT		702526	14.57				
LOWER LIMIT		175632	13.57				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419443/17		364001	14.04				
CCV 280-420036/2		494713	14.03				
CCV 280-420036/3		379533	14.03				
LCS 280-420036/4		443926	14.03				
MB 280-420036/6		455828	14.05				
280-110865-1	AFDV-126	461868	14.05				
280-110865-1 DL	AFDV-126 DL	472130	14.05				
280-110865-1 MS	AFDV-126 MS	490986	14.05				
280-110865-1 MSD	AFDV-126 MSD	473503	14.05				
280-110865-2	AFDV-127	496084	14.05				
280-110865-3	AFDV-128	476349	14.04				
280-110865-3 DL	AFDV-128 DL	482818	14.04				
280-110865-4	AFDV-129	463261	14.06				
280-110865-5	AFDV-118	490545	14.05				
280-110865-6	AFDV-124	456445	14.06				
280-110865-7	AFDV-146	464814	14.07				
280-110865-8	AFDV-131	453745	14.06				
280-110865-8 DL	AFDV-131 DL	446553	14.06				
280-110865-9	AFDV-134	438753	14.06				
280-110865-9 DL	AFDV-134 DL	473193	14.06				
280-110865-10	AFDV-132	472701	14.06				
280-110865-10 DL	AFDV-132 DL	454752	14.06				
280-110865-11	AFDV-133	469586	14.07				
280-110865-11 DL	AFDV-133 DL	464019	14.07				
280-110865-12	AFDV-108	443311	14.06				
280-110865-13	AFDV-116	379478	14.06				
280-110865-14	AFDV-147	511682	14.06				
280-110865-15	AFDV-125	467234	14.05				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419443/14 Date Analyzed: 06/21/2018 11:15  
 Instrument ID: VMS\_H GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 Lab File ID (Standard): H7640.D Heated Purge: (Y/N) N  
 Calibration ID: 32767

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	351263	14.07				
UPPER LIMIT	702526	14.57				
LOWER LIMIT	175632	13.57				
LAB SAMPLE ID	CLIENT SAMPLE ID					
280-110865-16	AFDV-106	471389	14.06			
280-110865-16 DL	AFDV-106 DL	480579	14.06			

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-408278/21 Date Analyzed: 03/19/2018 10:59  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_7352.D Heated Purge: (Y/N) Y  
 Calibration ID: 31915

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	85562	5.54	656921	7.33	165751	9.65	
UPPER LIMIT	171124	6.04	1313842	7.83	331502	10.15	
LOWER LIMIT	42781	5.04	328461	6.83	82876	9.15	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-408278/24		76496	5.54	605325	7.33	153559	9.65

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-408278/21 Date Analyzed: 03/19/2018 10:59  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_7352.D Heated Purge: (Y/N) Y  
 Calibration ID: 31915

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	250610	11.80				
UPPER LIMIT	501220	12.30				
LOWER LIMIT	125305	11.30				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-408278/24		235246	11.80			

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-416844/12 Date Analyzed: 05/30/2018 23:55  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_0690.D Heated Purge: (Y/N) Y  
 Calibration ID: 32565

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	164412	5.53	1075720	7.31	267115	9.64	
UPPER LIMIT	328824	6.03	2151440	7.81	534230	10.14	
LOWER LIMIT	82206	5.03	537860	6.81	133558	9.14	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-416844/17		148460	5.54	1001427	7.31	244980	9.64
CCV 280-420653/3		202100	5.52	1324602	7.30	351906	9.63
CCV 280-420653/2		202014	5.53	1308633	7.30	351171	9.63
LCS 280-420653/4		226993	5.52	1466785	7.30	406550	9.63
MB 280-420653/6		191380	5.52	1377176	7.30	377983	9.63
280-110720-D-1 MS		196957	5.53	1227770	7.30	343968	9.63
280-110720-D-1 MSD		195356	5.53	1292626	7.30	358725	9.63
280-110865-17	AFDV-119	136480	5.53	999923	7.30	275852	9.63
280-110865-17 DL	AFDV-119 DL	174809	5.53	1185545	7.30	328090	9.63
280-110865-18	AFDV-120	166233	5.52	1202006	7.30	346053	9.63
280-110865-18 DL	AFDV-120 DL	141738	5.53	1011650	7.30	273772	9.63
280-110865-19	AFDV-110	153817	5.53	1073257	7.30	299005	9.63
280-110865-19 DL	AFDV-110 DL	152592	5.52	1159241	7.30	319848	9.63
280-110865-20	AFDV-148	161832	5.52	1183222	7.30	328045	9.63

TBAd9 = TBA-d9 (IS)

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-416844/12 Date Analyzed: 05/30/2018 23:55  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_0690.D Heated Purge: (Y/N) Y  
 Calibration ID: 32565

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		406595	11.78				
UPPER LIMIT		813190	12.28				
LOWER LIMIT		203298	11.28				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-416844/17		384050	11.78				
CCV 280-420653/3		580284	11.77				
CCV 280-420653/2		590071	11.77				
LCS 280-420653/4		642243	11.77				
MB 280-420653/6		583578	11.77				
280-110720-D-1 MS		572437	11.77				
280-110720-D-1 MSD		578740	11.77				
280-110865-17	AFDV-119	459623	11.77				
280-110865-17 DL	AFDV-119 DL	507228	11.77				
280-110865-18	AFDV-120	558815	11.77				
280-110865-18 DL	AFDV-120 DL	425524	11.77				
280-110865-19	AFDV-110	459560	11.77				
280-110865-19 DL	AFDV-110 DL	486249	11.77				
280-110865-20	AFDV-148	508546	11.77				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419807/22 Date Analyzed: 06/25/2018 14:05  
 Instrument ID: VMS\_Q GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): Q5013.D Heated Purge: (Y/N) N  
 Calibration ID: 32817

		TBA <sub>d</sub> 9		FB		CBN <sub>zd</sub> 5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		169739	5.86	2692007	7.79	504515	10.02
UPPER LIMIT		339478	6.36	5384014	8.29	1009030	10.52
LOWER LIMIT		84870	5.36	1346004	7.29	252258	9.52
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419807/25		159854	5.86	2227555	7.79	434432	10.02
CCV 280-421081/2		140260	5.87	2731129	7.80	568294	10.03
CCV 280-421081/3		124647	5.87	2460440	7.80	531309	10.03
LCS 280-421081/4		138914	5.87	2445271	7.79	519505	10.03
LCSD 280-421081/5		142717	5.86	2544981	7.80	552415	10.03
MB 280-421081/6		136815	5.88	2361471	7.80	533813	10.03
280-111289-C-6 MS		148952	5.87	2360277	7.80	576585	10.03
280-111289-C-6 MSD		156928	5.87	2582000	7.80	630512	10.03
280-110865-21	AFDV-145	164866	5.87	2741632	7.79	624846	10.03

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419807/22 Date Analyzed: 06/25/2018 14:05  
 Instrument ID: VMS\_Q GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): Q5013.D Heated Purge: (Y/N) N  
 Calibration ID: 32817

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		567283	11.86				
UPPER LIMIT		1134566	12.36				
LOWER LIMIT		283642	11.36				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419807/25		485930	11.86				
CCV 280-421081/2		665276	11.87				
CCV 280-421081/3		569585	11.87				
LCS 280-421081/4		631420	11.88				
LCSD 280-421081/5		639600	11.87				
MB 280-421081/6		618372	11.87				
280-111289-C-6 MS		693376	11.87				
280-111289-C-6 MSD		749555	11.87				
280-110865-21	AFDV-145	719945	11.87				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-126</u>	Lab Sample ID: <u>280-110865-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7791.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 10:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 10:51</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	1200		200	32
75-34-3	1,1-Dichloroethane	3000	F1	200	44
75-35-4	1,1-Dichloroethene	530		200	46
107-06-2	1,2-Dichloroethane	ND		200	26
78-93-3	Methyl ethyl ketone (MEK)	ND		1200	400
67-64-1	Acetone	ND		2000	380
71-43-2	Benzene	33	J	200	32
75-00-3	Chloroethane	ND		400	82
156-59-2	<i>cis</i> -1,2-Dichloroethene	56000	E	200	30
100-41-4	Ethylbenzene	1500		200	32
75-09-2	Methylene Chloride	72	J	400	64
179601-23-1	m-Xylene & p-Xylene	680		400	68
95-47-6	o-Xylene	440		200	38
100-42-5	Styrene	ND		200	34
127-18-4	Tetrachloroethene	ND		200	40
108-88-3	Toluene	1700		200	34
156-60-5	<i>trans</i> -1,2-Dichloroethene	45	J	200	30
79-01-6	Trichloroethene	ND		200	32
75-01-4	<i>Vinyl chloride</i>	17000	E	200	20
1330-20-7	Xylenes, Total	1100		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	109		77-120
2037-26-5	Toluene-d8 (Surr)	96		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-126 DL Lab Sample ID: 280-110865-1 DL  
 Matrix: Water Lab File ID: H7792.D  
 Analysis Method: 8260B Date Collected: 06/12/2018 10:05  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 11:13  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 2000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	45000		2000	300
75-01-4	Vinyl chloride	15000		2000	200

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	86		70-127
460-00-4	4-Bromofluorobenzene (Surr)	104		78-120
1868-53-7	Dibromofluoromethane (Surr)	100		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-127</u>	Lab Sample ID: <u>280-110865-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7795.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 10:10</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 12:17</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	1.2		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	24		10	1.9
71-43-2	Benzene	0.21	J	1.0	0.16
75-00-3	Chloroethane	29		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	1.3		1.0	0.15
100-41-4	Ethylbenzene	0.24	J	1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	0.40	J	1.0	0.17
156-60-5	trans-1,2-Dichloroethene	0.45	J	1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	1.6		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-127
460-00-4	4-Bromofluorobenzene (Surr)	94		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-128</u>	Lab Sample ID: <u>280-110865-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7796.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 10:10</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 12:39</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	61	E	1.0	0.22
75-35-4	1,1-Dichloroethene	0.47	J	1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	3.9	J	10	1.9
71-43-2	Benzene	3.3		1.0	0.16
75-00-3	Chloroethane	190	E	2.0	0.41
156-59-2	cis-1,2-Dichloroethene	100	E	1.0	0.15
100-41-4	Ethylbenzene	32		1.0	0.16
75-09-2	Methylene Chloride	0.47	J	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	7.0		2.0	0.34
95-47-6	o-Xylene	4.2		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	3.4		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	0.21	J	1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	220	E	1.0	0.10
1330-20-7	Xylenes, Total	11		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	96		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-128 DL Lab Sample ID: 280-110865-3 DL

Matrix: Water Lab File ID: H7797.D

Analysis Method: 8260B Date Collected: 06/12/2018 10:10

Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 13:00

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 10

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	67		10	2.2
75-00-3	Chloroethane	210		20	4.1
156-59-2	cis-1,2-Dichloroethene	110		10	1.5
75-01-4	Vinyl chloride	230		10	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		70-127
460-00-4	4-Bromofluorobenzene (Surr)	101		78-120
1868-53-7	Dibromofluoromethane (Surr)	108		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-129</u>	Lab Sample ID: <u>280-110865-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7798.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 11:35</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 13:22</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	102		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-118</u>	Lab Sample ID: <u>280-110865-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7799.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 11:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 13:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	6.6	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	15		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	107		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-124</u>	Lab Sample ID: <u>280-110865-6</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7800.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 10:10</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 14:05</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-146</u>	Lab Sample ID: <u>280-110865-7</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7801.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 16:32</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 14:26</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	109		77-120
2037-26-5	Toluene-d8 (Surr)	96		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-131</u>	Lab Sample ID: <u>280-110865-8</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7802.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 14:50</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 14:48</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>100</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	120		100	16
75-34-3	1,1-Dichloroethane	3100		100	22
75-35-4	1,1-Dichloroethene	180		100	23
107-06-2	1,2-Dichloroethane	ND		100	13
78-93-3	Methyl ethyl ketone (MEK)	ND		600	200
67-64-1	Acetone	ND		1000	190
71-43-2	Benzene	54	J	100	16
75-00-3	Chloroethane	1000		200	41
156-59-2	<i>cis</i> -1,2-Dichloroethene	7200	E	100	15
100-41-4	Ethylbenzene	830		100	16
75-09-2	Methylene Chloride	ND		200	32
179601-23-1	m-Xylene & p-Xylene	1800		200	34
95-47-6	o-Xylene	650		100	19
100-42-5	Styrene	ND		100	17
127-18-4	Tetrachloroethene	ND		100	20
108-88-3	Toluene	20000	E	100	17
156-60-5	trans-1,2-Dichloroethene	29	J	100	15
79-01-6	Trichloroethene	ND		100	16
75-01-4	Vinyl chloride	13000	E	100	10
1330-20-7	Xylenes, Total	2500		200	19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		70-127
460-00-4	4-Bromofluorobenzene (Surr)	92		78-120
1868-53-7	Dibromofluoromethane (Surr)	108		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-131 DL Lab Sample ID: 280-110865-8 DL  
 Matrix: Water Lab File ID: H7803.D  
 Analysis Method: 8260B Date Collected: 06/12/2018 14:50  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 15:09  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 1000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	7000		1000	150
108-88-3	Toluene	19000		1000	170
75-01-4	Vinyl chloride	13000		1000	100

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		70-127
460-00-4	4-Bromofluorobenzene (Surr)	90		78-120
1868-53-7	Dibromofluoromethane (Surr)	113		77-120
2037-26-5	Toluene-d8 (Surr)	96		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-134</u>	Lab Sample ID: <u>280-110865-9</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7804.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 15:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 15:31</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>4</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	2.1	J	4.0	0.64
75-34-3	1,1-Dichloroethane	49		4.0	0.88
75-35-4	1,1-Dichloroethene	ND		4.0	0.92
107-06-2	1,2-Dichloroethane	ND		4.0	0.52
78-93-3	Methyl ethyl ketone (MEK)	ND		24	8.0
67-64-1	Acetone	ND		40	7.6
71-43-2	Benzene	21		4.0	0.64
75-00-3	Chloroethane	1200	E	8.0	1.6
156-59-2	cis-1,2-Dichloroethene	19		4.0	0.60
100-41-4	Ethylbenzene	160		4.0	0.64
75-09-2	Methylene Chloride	ND		8.0	1.3
179601-23-1	m-Xylene & p-Xylene	510	E	8.0	1.4
95-47-6	o-Xylene	130		4.0	0.76
100-42-5	Styrene	ND		4.0	0.68
127-18-4	Tetrachloroethene	1.5	J	4.0	0.80
108-88-3	Toluene	910	E	4.0	0.68
156-60-5	trans-1,2-Dichloroethene	2.1	J	4.0	0.60
79-01-6	Trichloroethene	ND		4.0	0.64
75-01-4	Vinyl chloride	73		4.0	0.40
1330-20-7	Xylenes, Total	640	E	8.0	0.76

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-127
460-00-4	4-Bromofluorobenzene (Surr)	88		78-120
1868-53-7	Dibromofluoromethane (Surr)	113		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-134 DL Lab Sample ID: 280-110865-9 DL

Matrix: Water Lab File ID: H7805.D

Analysis Method: 8260B Date Collected: 06/12/2018 15:00

Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 15:53

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 40

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-00-3	Chloroethane	1100		80	16
179601-23-1	m-Xylene & p-Xylene	470		80	14
95-47-6	o-Xylene	130		40	7.6
108-88-3	Toluene	800		40	6.8
1330-20-7	Xylenes, Total	600		80	7.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	111		77-120
2037-26-5	Toluene-d8 (Surr)	89		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-132</u>	Lab Sample ID: <u>280-110865-10</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7806.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 15:10</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 16:14</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>40</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	36	J	40	6.4
75-34-3	1,1-Dichloroethane	1100		40	8.8
75-35-4	1,1-Dichloroethene	26	J	40	9.2
107-06-2	1,2-Dichloroethane	ND		40	5.2
78-93-3	Methyl ethyl ketone (MEK)	ND		240	80
67-64-1	Acetone	ND		400	76
71-43-2	Benzene	36	J	40	6.4
75-00-3	Chloroethane	1400		80	16
156-59-2	cis-1,2-Dichloroethene	1300		40	6.0
100-41-4	Ethylbenzene	430		40	6.4
75-09-2	Methylene Chloride	ND		80	13
179601-23-1	m-Xylene & p-Xylene	940		80	14
95-47-6	o-Xylene	330		40	7.6
100-42-5	Styrene	ND		40	6.8
127-18-4	Tetrachloroethene	ND		40	8.0
108-88-3	Toluene	9600	E	40	6.8
156-60-5	trans-1,2-Dichloroethene	11	J	40	6.0
79-01-6	Trichloroethene	ND		40	6.4
75-01-4	Vinyl chloride	2400		40	4.0
1330-20-7	Xylenes, Total	1300		80	7.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		70-127
460-00-4	4-Bromofluorobenzene (Surr)	89		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-132 DL Lab Sample ID: 280-110865-10 DL  
Matrix: Water Lab File ID: H7807.D  
Analysis Method: 8260B Date Collected: 06/12/2018 15:10  
Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 16:36  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 400  
Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
108-88-3	Toluene	8500		400	68

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		70-127
460-00-4	4-Bromofluorobenzene (Surr)	94		78-120
1868-53-7	Dibromofluoromethane (Surr)	111		77-120
2037-26-5	Toluene-d8 (Surr)	94		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-133</u>	Lab Sample ID: <u>280-110865-11</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7808.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 15:15</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 16:58</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>40</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	37	J	40	6.4
75-34-3	1,1-Dichloroethane	1200		40	8.8
75-35-4	1,1-Dichloroethene	26	J	40	9.2
107-06-2	1,2-Dichloroethane	ND		40	5.2
78-93-3	Methyl ethyl ketone (MEK)	ND		240	80
67-64-1	Acetone	ND		400	76
71-43-2	Benzene	37	J	40	6.4
75-00-3	Chloroethane	1300		80	16
156-59-2	cis-1,2-Dichloroethene	1300		40	6.0
100-41-4	Ethylbenzene	470		40	6.4
75-09-2	Methylene Chloride	ND		80	13
179601-23-1	m-Xylene & p-Xylene	980		80	14
95-47-6	o-Xylene	340		40	7.6
100-42-5	Styrene	ND		40	6.8
127-18-4	Tetrachloroethene	ND		40	8.0
108-88-3	Toluene	9900	E	40	6.8
156-60-5	trans-1,2-Dichloroethene	11	J	40	6.0
79-01-6	Trichloroethene	ND		40	6.4
75-01-4	Vinyl chloride	2300		40	4.0
1330-20-7	Xylenes, Total	1300		80	7.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	107		77-120
2037-26-5	Toluene-d8 (Surr)	93		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-133 DL Lab Sample ID: 280-110865-11 DL  
 Matrix: Water Lab File ID: H7809.D  
 Analysis Method: 8260B Date Collected: 06/12/2018 15:15  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 17:19  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 400  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
108-88-3	Toluene	9000		400	68

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	101		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-108</u>	Lab Sample ID: <u>280-110865-12</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7810.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 15:46</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 17:41</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	108		77-120
2037-26-5	Toluene-d8 (Surr)	90		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-116</u>	Lab Sample ID: <u>280-110865-13</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7811.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 15:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 18:02</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	0.54	J	2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	84		70-127
460-00-4	4-Bromofluorobenzene (Surr)	94		78-120
1868-53-7	Dibromofluoromethane (Surr)	109		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-147 Lab Sample ID: 280-110865-14

Matrix: Water Lab File ID: H7812.D

Analysis Method: 8260B Date Collected: 06/12/2018 16:33

Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 18:24

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	112		77-120
2037-26-5	Toluene-d8 (Surr)	86		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-125</u>	Lab Sample ID: <u>280-110865-15</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7813.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 09:55</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 18:45</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	94		78-120
1868-53-7	Dibromofluoromethane (Surr)	112		77-120
2037-26-5	Toluene-d8 (Surr)	94		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-106</u>	Lab Sample ID: <u>280-110865-16</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7814.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 14:34</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 19:07</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>4</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	20		4.0	0.64
75-34-3	1,1-Dichloroethane	54		4.0	0.88
75-35-4	1,1-Dichloroethene	6.6		4.0	0.92
107-06-2	1,2-Dichloroethane	ND		4.0	0.52
78-93-3	Methyl ethyl ketone (MEK)	ND		24	8.0
67-64-1	Acetone	ND		40	7.6
71-43-2	Benzene	ND		4.0	0.64
75-00-3	Chloroethane	ND		8.0	1.6
156-59-2	<i>cis</i> -1,2-Dichloroethene	1100	E	4.0	0.60
100-41-4	Ethylbenzene	ND		4.0	0.64
75-09-2	Methylene Chloride	ND		8.0	1.3
179601-23-1	m-Xylene & p-Xylene	ND		8.0	1.4
95-47-6	o-Xylene	ND		4.0	0.76
100-42-5	Styrene	ND		4.0	0.68
127-18-4	Tetrachloroethene	ND		4.0	0.80
108-88-3	Toluene	ND		4.0	0.68
156-60-5	<i>trans</i> -1,2-Dichloroethene	2.7	J	4.0	0.60
79-01-6	Trichloroethene	5.0		4.0	0.64
75-01-4	<i>Vinyl chloride</i>	300	E	4.0	0.40
1330-20-7	Xylenes, Total	ND		8.0	0.76

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	92		78-120
1868-53-7	Dibromofluoromethane (Surr)	114		77-120
2037-26-5	Toluene-d8 (Surr)	92		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-106 DL Lab Sample ID: 280-110865-16 DL

Matrix: Water Lab File ID: H7815.D

Analysis Method: 8260B Date Collected: 06/12/2018 14:34

Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 19:29

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 40

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	1100		40	6.0
75-01-4	Vinyl chloride	270		40	4.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-127
460-00-4	4-Bromofluorobenzene (Surr)	102		78-120
1868-53-7	Dibromofluoromethane (Surr)	112		77-120
2037-26-5	Toluene-d8 (Surr)	100		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-119</u>	Lab Sample ID: <u>280-110865-17</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2071.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 11:35</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/30/2018 01:47</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>100</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420653</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4400	H	100	16
75-34-3	1,1-Dichloroethane	14000	H E	100	22
75-35-4	1,1-Dichloroethene	990	H	100	23
107-06-2	1,2-Dichloroethane	ND	H	100	13
78-93-3	Methyl ethyl ketone (MEK)	ND	H	600	200
67-64-1	Acetone	ND	H	1000	190
71-43-2	Benzene	96	J H	100	16
75-00-3	Chloroethane	ND	H	200	41
156-59-2	cis-1,2-Dichloroethene	59000	H E	100	15
100-41-4	Ethylbenzene	3800	H	100	16
75-09-2	Methylene Chloride	37	J H	200	32
179601-23-1	m-Xylene & p-Xylene	12000	H E	200	34
95-47-6	o-Xylene	4700	H	100	19
100-42-5	Styrene	ND	H	100	17
127-18-4	Tetrachloroethene	ND	H	100	20
108-88-3	Toluene	190	H	100	17
156-60-5	trans-1,2-Dichloroethene	130	H	100	15
79-01-6	Trichloroethene	ND	H	100	16
75-01-4	Vinyl chloride	28000	H E	100	10
1330-20-7	Xylenes, Total	17000	H	200	19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	133	X	70-127
460-00-4	4-Bromofluorobenzene (Surr)	109		78-120
1868-53-7	Dibromofluoromethane (Surr)	126	X	77-120
2037-26-5	Toluene-d8 (Surr)	113		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-119 DL Lab Sample ID: 280-110865-17 DL  
 Matrix: Water Lab File ID: MS9\_2072.D  
 Analysis Method: 8260B Date Collected: 06/12/2018 11:35  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/30/2018 02:07  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420653 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	14000	H	1000	220
156-59-2	cis-1,2-Dichloroethene	70000	H E	1000	150
179601-23-1	m-Xylene & p-Xylene	12000	H	2000	340
95-47-6	o-Xylene	4300	H	1000	190
75-01-4	Vinyl chloride	29000	H	1000	100
1330-20-7	Xylenes, Total	16000	H	2000	190

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	120		70-127
460-00-4	4-Bromofluorobenzene (Surr)	104		78-120
1868-53-7	Dibromofluoromethane (Surr)	114		77-120
2037-26-5	Toluene-d8 (Surr)	106		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-120</u>	Lab Sample ID: <u>280-110865-18</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2074.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 11:40</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/30/2018 02:28</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420653</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	3900	H	200	32
75-34-3	1,1-Dichloroethane	12000	H E	200	44
75-35-4	1,1-Dichloroethene	880	H	200	46
107-06-2	1,2-Dichloroethane	ND	H	200	26
78-93-3	Methyl ethyl ketone (MEK)	ND	H	1200	400
67-64-1	Acetone	ND	H	2000	380
71-43-2	Benzene	89	J H	200	32
75-00-3	Chloroethane	ND	H	400	82
156-59-2	cis-1,2-Dichloroethene	61000	H E	200	30
100-41-4	Ethylbenzene	3400	H	200	32
75-09-2	Methylene Chloride	ND	H	400	64
179601-23-1	m-Xylene & p-Xylene	11000	H	400	68
95-47-6	o-Xylene	4000	H	200	38
100-42-5	Styrene	ND	H	200	34
127-18-4	Tetrachloroethene	ND	H	200	40
108-88-3	Toluene	25000	H E	200	34
156-60-5	trans-1,2-Dichloroethene	120	J H	200	30
79-01-6	Trichloroethene	ND	H	200	32
75-01-4	Vinyl chloride	24000	H E	200	20
1330-20-7	Xylenes, Total	15000	H	400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		70-127
460-00-4	4-Bromofluorobenzene (Surr)	92		78-120
1868-53-7	Dibromofluoromethane (Surr)	105		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-120 DL Lab Sample ID: 280-110865-18 DL  
 Matrix: Water Lab File ID: MS9\_2075.D  
 Analysis Method: 8260B Date Collected: 06/12/2018 11:40  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/30/2018 02:49  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 2000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420653 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	18000	H	2000	440
156-59-2	cis-1,2-Dichloroethene	86000	H	2000	300
108-88-3	Toluene	44000	H	2000	340
75-01-4	Vinyl chloride	36000	H	2000	200

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	125		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	121	X	77-120
2037-26-5	Toluene-d8 (Surr)	114		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-110</u>	Lab Sample ID: <u>280-110865-19</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2076.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 14:20</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/30/2018 03:10</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>2</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420653</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND	H	2.0	0.32
75-34-3	1,1-Dichloroethane	150	H E	2.0	0.44
75-35-4	1,1-Dichloroethene	10	H	2.0	0.46
107-06-2	1,2-Dichloroethane	1.8	J H	2.0	0.26
78-93-3	Methyl ethyl ketone (MEK)	ND	H	12	4.0
67-64-1	Acetone	ND	H	20	3.8
71-43-2	Benzene	ND	H	2.0	0.32
75-00-3	Chloroethane	ND	H	4.0	0.82
156-59-2	cis-1,2-Dichloroethene	380	H E	2.0	0.30
100-41-4	Ethylbenzene	ND	H	2.0	0.32
75-09-2	Methylene Chloride	ND	H	4.0	0.64
179601-23-1	m-Xylene & p-Xylene	ND	H	4.0	0.68
95-47-6	o-Xylene	ND	H	2.0	0.38
100-42-5	Styrene	ND	H	2.0	0.34
127-18-4	Tetrachloroethene	ND	H	2.0	0.40
108-88-3	Toluene	ND	H	2.0	0.34
156-60-5	trans-1,2-Dichloroethene	2.1	H	2.0	0.30
79-01-6	Trichloroethene	ND	H	2.0	0.32
75-01-4	Vinyl chloride	170	H E	2.0	0.20
1330-20-7	Xylenes, Total	ND	H	4.0	0.38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	131	X	70-127
460-00-4	4-Bromofluorobenzene (Surr)	110		78-120
1868-53-7	Dibromofluoromethane (Surr)	124	X	77-120
2037-26-5	Toluene-d8 (Surr)	116		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-110 DL Lab Sample ID: 280-110865-19 DL  
 Matrix: Water Lab File ID: MS9\_2077.D  
 Analysis Method: 8260B Date Collected: 06/12/2018 14:20  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/30/2018 03:31  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 20  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420653 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	170	H	20	4.4
156-59-2	cis-1,2-Dichloroethene	430	H	20	3.0
75-01-4	Vinyl chloride	200	H	20	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	111		70-127
460-00-4	4-Bromofluorobenzene (Surr)	92		78-120
1868-53-7	Dibromofluoromethane (Surr)	102		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-148</u>	Lab Sample ID: <u>280-110865-20</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2078.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 16:34</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/30/2018 03:51</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420653</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND	H	1.0	0.16
75-34-3	1,1-Dichloroethane	ND	H	1.0	0.22
75-35-4	1,1-Dichloroethene	ND	H	1.0	0.23
107-06-2	1,2-Dichloroethane	ND	H	1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND	H	6.0	2.0
67-64-1	Acetone	ND	H	10	1.9
71-43-2	Benzene	ND	H	1.0	0.16
75-00-3	Chloroethane	ND	H	2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND	H	1.0	0.15
100-41-4	Ethylbenzene	ND	H	1.0	0.16
75-09-2	Methylene Chloride	ND	H	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND	H	2.0	0.34
95-47-6	o-Xylene	ND	H	1.0	0.19
100-42-5	Styrene	ND	H	1.0	0.17
127-18-4	Tetrachloroethene	ND	H	1.0	0.20
108-88-3	Toluene	ND	H	1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND	H	1.0	0.15
79-01-6	Trichloroethene	ND	H	1.0	0.16
75-01-4	Vinyl chloride	ND	H	1.0	0.10
1330-20-7	Xylenes, Total	ND	H	2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		70-127
460-00-4	4-Bromofluorobenzene (Surr)	89		78-120
1868-53-7	Dibromofluoromethane (Surr)	101		77-120
2037-26-5	Toluene-d8 (Surr)	94		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-145</u>	Lab Sample ID: <u>280-110865-21</u>
Matrix: <u>Water</u>	Lab File ID: <u>Q5425.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 16:45</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/04/2018 20:07</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>421081</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND	H	1.0	0.16
75-34-3	1,1-Dichloroethane	ND	H	1.0	0.22
75-35-4	1,1-Dichloroethene	ND	H	1.0	0.23
107-06-2	1,2-Dichloroethane	ND	H	1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND	H	6.0	2.0
67-64-1	Acetone	ND	H	10	1.9
71-43-2	Benzene	ND	H	1.0	0.16
75-00-3	Chloroethane	ND	H	2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND	H	1.0	0.15
100-41-4	Ethylbenzene	ND	H	1.0	0.16
75-09-2	Methylene Chloride	ND	H	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	0.46	J H	2.0	0.34
95-47-6	o-Xylene	0.20	J H	1.0	0.19
100-42-5	Styrene	0.56	J H	1.0	0.17
127-18-4	Tetrachloroethene	ND	H	1.0	0.20
108-88-3	Toluene	0.29	J H	1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND	H	1.0	0.15
79-01-6	Trichloroethene	ND	H	1.0	0.16
75-01-4	Vinyl chloride	ND	H	1.0	0.10
1330-20-7	Xylenes, Total	0.66	J H	2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		70-127
460-00-4	4-Bromofluorobenzene (Surr)	97		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	80		80-125



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 415628

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2018 08:40 Calibration End Date: 05/21/2018 10:28 Calibration ID: 32457

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415628/10	H6508.D
Level 2	IC 280-415628/11	H6509.D
Level 3	IC 280-415628/12	H6510.D
Level 4	ICIS 280-415628/13	H6511.D
Level 5	IC 280-415628/14	H6512.D
Level 6	IC 280-415628/15	H6513.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0029 0.0025	0.0031	0.0029	0.0028	0.0026	Ave		0.0028				7.6		15.0			
Ethanol	++++ 0.0006	0.0009	0.0007	0.0006	0.0006	Lin2	0.0452	0.0006							1.0000		0.9900
Propene oxide	0.0116 0.0138	0.0127	0.0152	0.0145	0.0144	Ave		0.0137				9.7		15.0			
2-Propanol	++++ 0.0049	0.0059	0.0051	0.0041	0.0047	Ave		0.0049				13.5		15.0			
Acetonitrile	++++ 0.0047	0.0074	0.0059	0.0056	0.0043	Lin2	0.0589	0.0046							0.9920		0.9900
Di-isopropyl ether (DIPE)	0.2183 0.2175	0.2268	0.2252	0.2070	0.2273	Ave		0.2203				3.5		15.0			
Chloroprene	0.4972 0.4668	0.4978	0.5119	0.4621	0.4854	Ave		0.4869				4.0		15.0			
Tert-butyl ethyl ether	0.9253 0.8440	0.8521	0.7610	0.7925	0.8276	Ave		0.8338				6.8		15.0			
Ethyl acetate	0.0941 0.1222	0.1156	0.0860	0.1040	0.1137	Ave		0.1060				13.1		15.0			
Propionitrile	0.0066 0.0084	0.0067	0.0065	0.0065	0.0083	Ave		0.0072				12.8		15.0			
Methacrylonitrile	0.0549 0.0617	0.0596	0.0483	0.0512	0.0623	Ave		0.0563				10.3		15.0			
Tert-amyl methyl ether	0.6661 0.6948	0.6682	0.6307	0.6519	0.7376	Ave		0.6749				5.5		15.0			
n-Butanol	++++ 0.0026	0.0010	0.0018	0.0020	0.0026	Lin2	-0.086	0.0026							0.9940		0.9900
Methyl methacrylate	0.0568 0.0412	0.0518	0.0424	0.0421	0.0441	Ave		0.0464				13.8		15.0			
2-Nitropropane	0.0394 0.0237	0.0214	0.0274	0.0239	0.0254	Lin1	0.0191	0.0239							0.9960		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 415628

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2018 08:40 Calibration End Date: 05/21/2018 10:28 Calibration ID: 32457

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrahydrothiophene	++++ 0.0741	0.0451	0.0637	0.0621	0.0803	Lin2	-0.126	0.0758							0.9930		0.9900
cis-1,4-Dichloro-2-butene	0.1836 0.1928	0.1966	0.1880	0.1969	0.1968	Ave		0.1924				2.9		15.0			
1,2,3-Trimethylbenzene	2.7665 2.8884	2.9484	2.9237	3.0277	3.0293	Ave		2.9307				3.4		15.0			
1,3,5-Trichlorobenzene	1.2528 1.3909	1.3437	1.2859	1.4460	1.3955	Ave		1.3525				5.4		15.0			
Dibromofluoromethane (Surr)	0.5723 0.5611	0.5315	0.4941	0.5236	0.5612	Ave		0.5406				5.5		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2660 0.2708	0.2878	0.2528	0.2584	0.2783	Ave		0.2690				4.8		15.0			
Toluene-d8 (Surr)	4.2228 4.4747	4.5433	4.2208	4.5190	4.5817	Ave		4.4271				3.7		15.0			
4-Bromofluorobenzene (Surr)	1.6621 1.6498	1.7508	1.6954	1.7731	1.6499	Ave		1.6969				3.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 415628

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2018 08:40 Calibration End Date: 05/21/2018 10:28 Calibration ID: 32457

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-415628/10	H6508.D
Level 2	IC 280-415628/11	H6509.D
Level 3	IC 280-415628/12	H6510.D
Level 4	ICIS 280-415628/13	H6511.D
Level 5	IC 280-415628/14	H6512.D
Level 6	IC 280-415628/15	H6513.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Ave	28917 1616865	64504	148640	299132	819027	100 6000	200	500	1000	3000
Ethanol	FB	Lin2	++++ 215321	11696	21744	41982	110645	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	116478 8800518	264298	766910	1563698	4550118	100 6000	200	500	1000	3000
2-Propanol	FB	Ave	++++ 312727	12325	25786	43971	147952	++++ 600	20.0	50.0	100	300
Acetonitrile	FB	Lin2	++++ 302420	15531	29706	60630	135876	++++ 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	21876 1391483	47388	113678	223480	717054	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	49825 2986637	103996	258351	498954	1531425	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	92720 5400465	178014	384038	855752	2611241	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	18864 1564400	48285	86826	224685	717665	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	6604 537560	13978	32883	69974	261154	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	55016 3945771	124475	243635	553069	1964714	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	66750 4445505	139593	318322	703923	2327298	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	FB	Lin2	++++ 420021	4981	22633	55058	208824	++++ 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	11393 526627	21634	42777	91005	278069	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Lin1	7902 303205	8951	27683	51623	160429	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Lin2	++++ 229021	4596	15511	31944	120658	++++ 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 415628

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/21/2018 08:40 Calibration End Date: 05/21/2018 10:28 Calibration ID: 32457

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	13754 930884	30815	68481	147220	458492	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	103604 6973586	231092	532605	1132133	3528085	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	46918 3358195	105316	234253	540677	1625233	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	57350 3590172	111034	249354	565389	1770726	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	26653 1732478	60123	127578	279003	878088	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	104595 6913495	231254	513924	1162140	3444013	1.00 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	62246 3983315	137226	308854	663017	1921604	1.00 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



# Calibration

/ Ethylene oxide

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

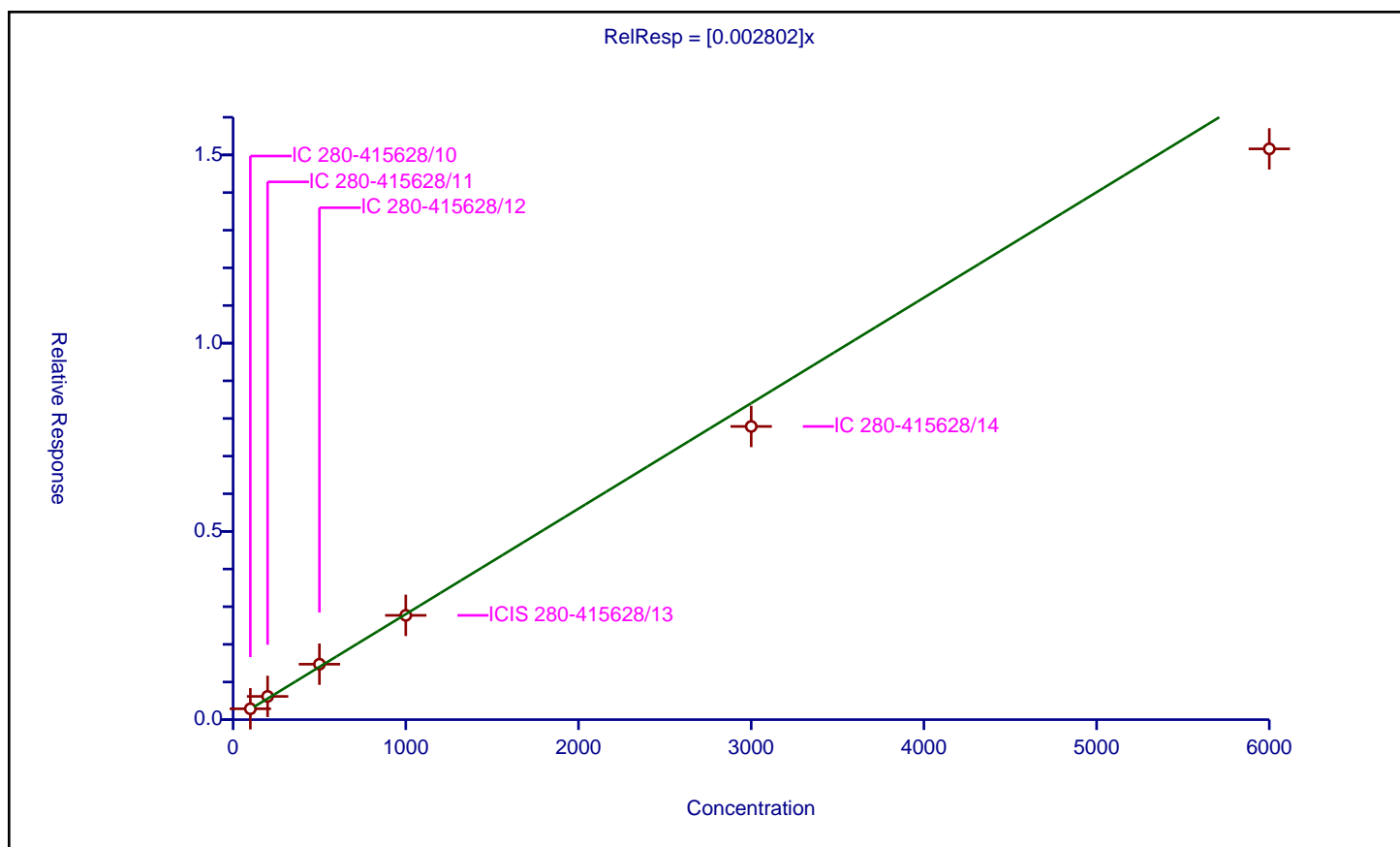
## Curve Coefficients

Intercept: 0  
 Slope: 0.002802

## Error Coefficients

Standard Error: 825000  
 Relative Standard Error: 7.6  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	100.0	0.288574	12.5	1252580.0	0.002886	Y
2	IC 280-415628/11	200.0	0.617538	12.5	1305669.0	0.003088	Y
3	IC 280-415628/12	500.0	1.472629	12.5	1261689.0	0.002945	Y
4	ICIS 280-415628/13	1000.0	2.770334	12.5	1349711.0	0.00277	Y
5	IC 280-415628/14	3000.0	7.787649	12.5	1314625.0	0.002596	Y
6	IC 280-415628/15	6000.0	15.161172	12.5	1333064.0	0.002527	Y





Calibration

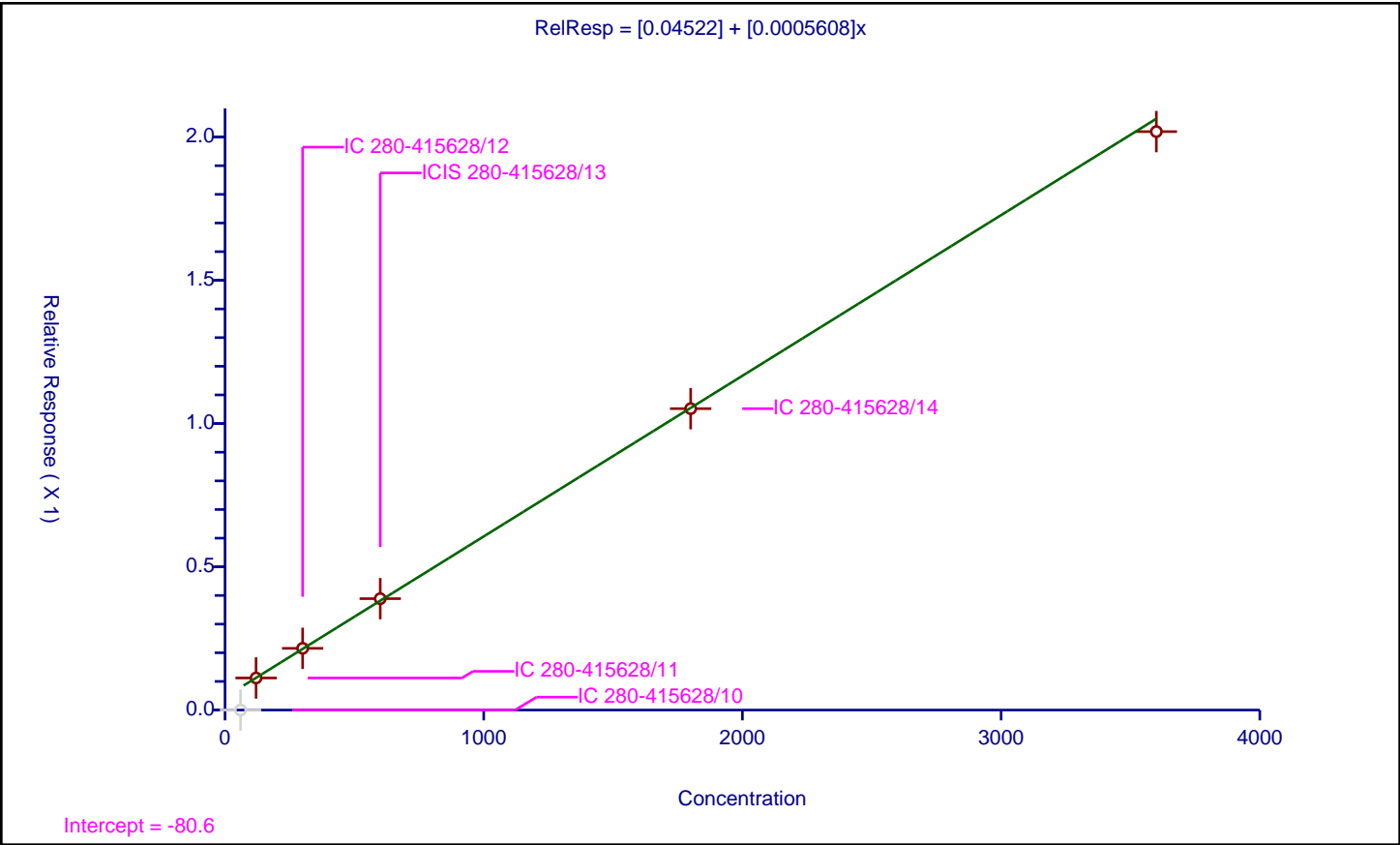
/ Ethanol

Curve Type: Linear  
Weighting: Conc\_Sq  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

Curve Coefficients	
Intercept:	0.04522
Slope:	0.0005608

Error Coefficients	
Standard Error:	143000
Relative Standard Error:	2.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	60.0	0.0	12.5	1252580.0	0.0	N
2	IC 280-415628/11	120.0	0.111973	12.5	1305669.0	0.000933	Y
3	IC 280-415628/12	300.0	0.215426	12.5	1261689.0	0.000718	Y
4	ICIS 280-415628/13	600.0	0.388805	12.5	1349711.0	0.000648	Y
5	IC 280-415628/14	1800.0	1.052059	12.5	1314625.0	0.000584	Y
6	IC 280-415628/15	3600.0	2.019042	12.5	1333064.0	0.000561	Y





## Calibration

/ Propene oxide

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

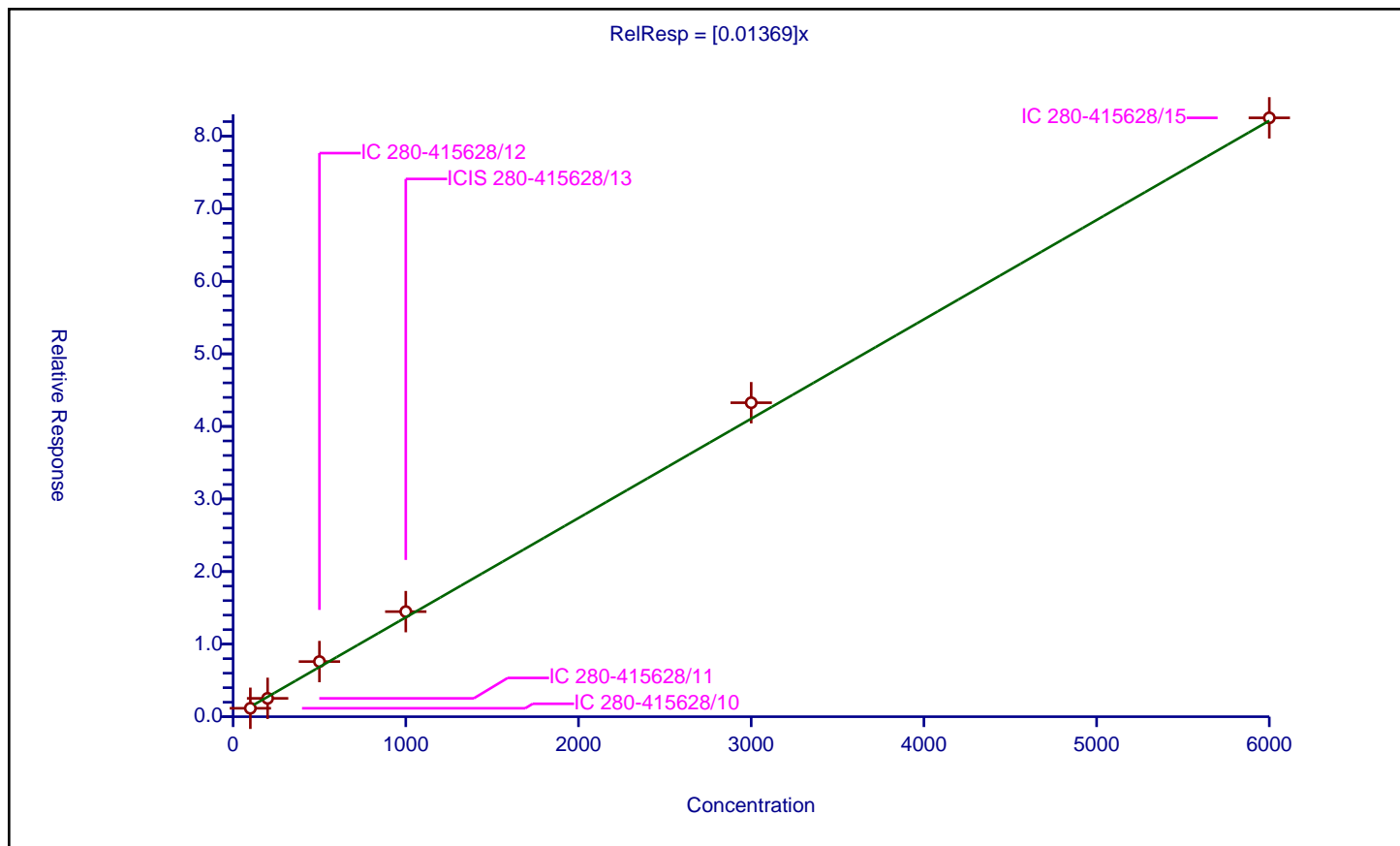
### Curve Coefficients

Intercept: 0  
 Slope: 0.01369

### Error Coefficients

Standard Error: 4500000  
 Relative Standard Error: 9.7  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	100.0	1.162381	12.5	1252580.0	0.011624	Y
2	IC 280-415628/11	200.0	2.530293	12.5	1305669.0	0.012651	Y
3	IC 280-415628/12	500.0	7.598049	12.5	1261689.0	0.015196	Y
4	ICIS 280-415628/13	1000.0	14.481785	12.5	1349711.0	0.014482	Y
5	IC 280-415628/14	3000.0	43.26441	12.5	1314625.0	0.014421	Y
6	IC 280-415628/15	6000.0	82.521526	12.5	1333064.0	0.013754	Y





## Calibration

/ Isopropyl alcohol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

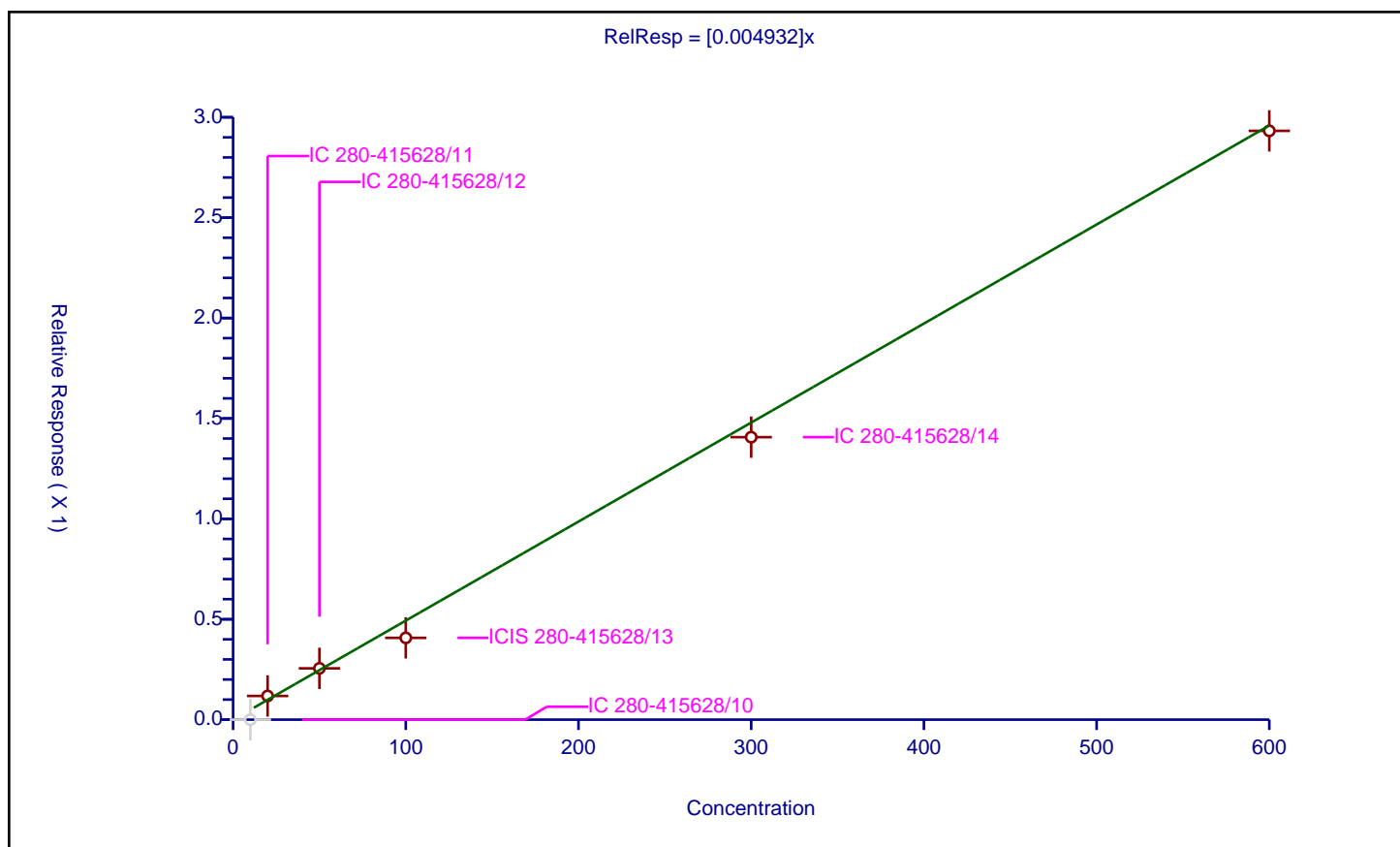
### Curve Coefficients

Intercept: 0  
 Slope: 0.004932

### Error Coefficients

Standard Error: 175000  
 Relative Standard Error: 13.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.966

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	10.0	0.0	12.5	1252580.0	0.0	N
2	IC 280-415628/11	20.0	0.117995	12.5	1305669.0	0.0059	Y
3	IC 280-415628/12	50.0	0.255471	12.5	1261689.0	0.005109	Y
4	ICIS 280-415628/13	100.0	0.407226	12.5	1349711.0	0.004072	Y
5	IC 280-415628/14	300.0	1.406789	12.5	1314625.0	0.004689	Y
6	IC 280-415628/15	600.0	2.932408	12.5	1333064.0	0.004887	Y





# Calibration

/ Acetonitrile

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

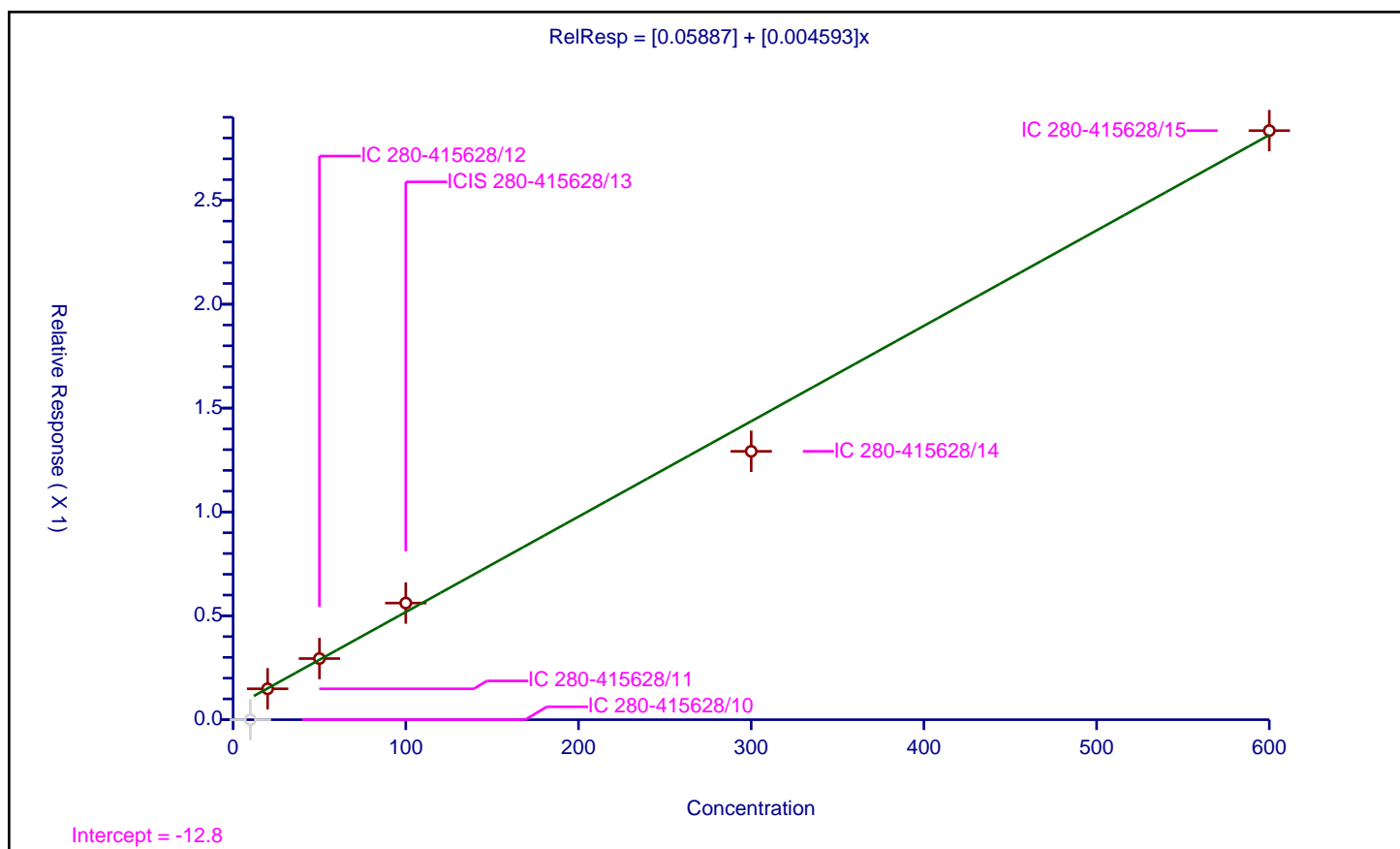
## Curve Coefficients

Intercept: 0.05887  
 Slope: 0.004593

## Error Coefficients

Standard Error: 196000  
 Relative Standard Error: 8.4  
 Correlation Coefficient: 0.994  
 Coefficient of Determination (Adjusted): 0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	10.0	0.0	12.5	1252580.0	0.0	N
2	IC 280-415628/11	20.0	0.148688	12.5	1305669.0	0.007434	Y
3	IC 280-415628/12	50.0	0.294308	12.5	1261689.0	0.005886	Y
4	ICIS 280-415628/13	100.0	0.561509	12.5	1349711.0	0.005615	Y
5	IC 280-415628/14	300.0	1.291965	12.5	1314625.0	0.004307	Y
6	IC 280-415628/15	600.0	2.83576	12.5	1333064.0	0.004726	Y





## Calibration

/ Isopropyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

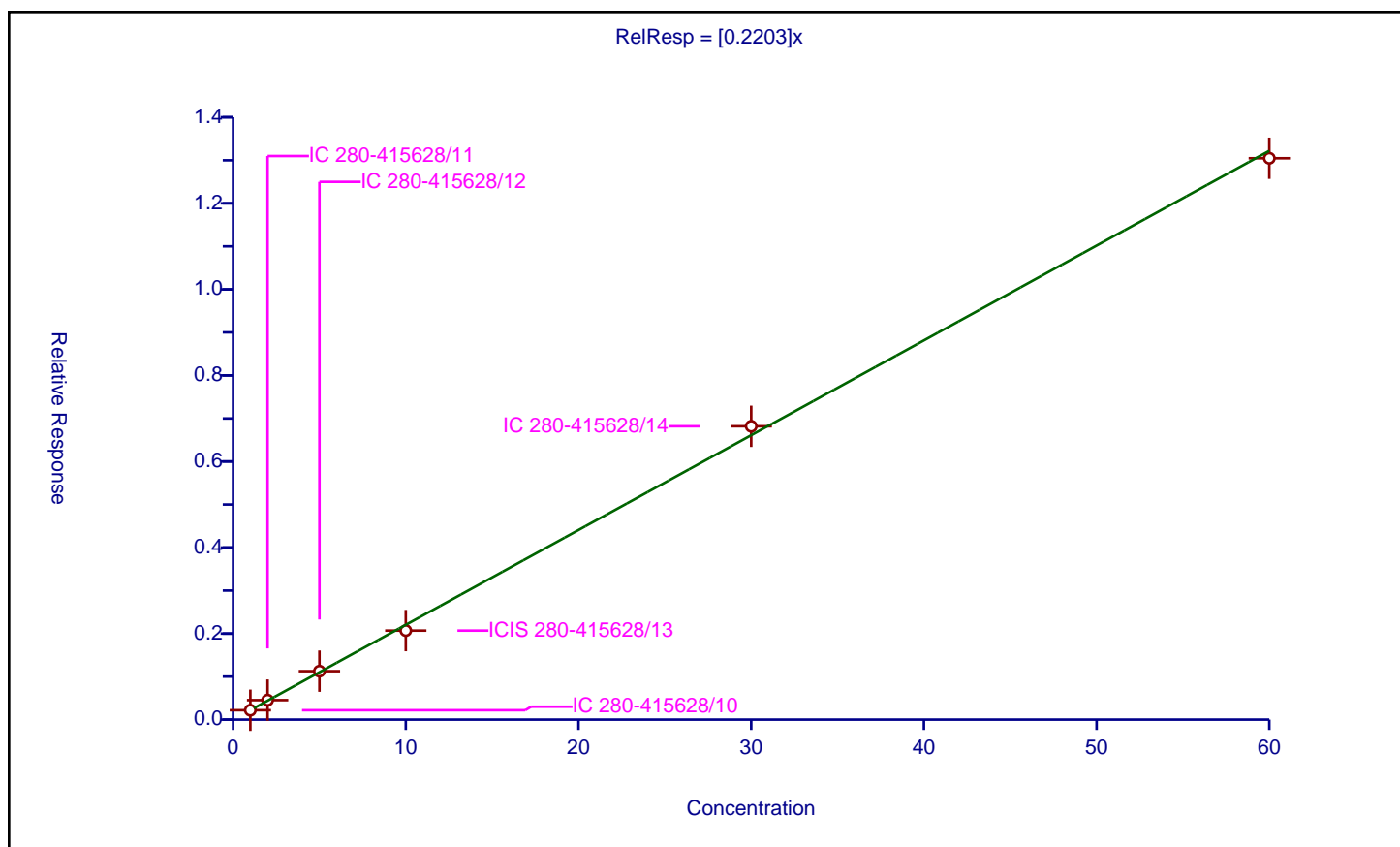
### Curve Coefficients

Intercept: 0  
 Slope: 0.2203

### Error Coefficients

Standard Error: 709000  
 Relative Standard Error: 3.5  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	0.218309	12.5	1252580.0	0.218309	Y
2	IC 280-415628/11	2.0	0.453675	12.5	1305669.0	0.226838	Y
3	IC 280-415628/12	5.0	1.126248	12.5	1261689.0	0.22525	Y
4	ICIS 280-415628/13	10.0	2.069702	12.5	1349711.0	0.20697	Y
5	IC 280-415628/14	30.0	6.818047	12.5	1314625.0	0.227268	Y
6	IC 280-415628/15	60.0	13.047789	12.5	1333064.0	0.217463	Y





## Calibration

/ 2-Chloro-1,3-butadiene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

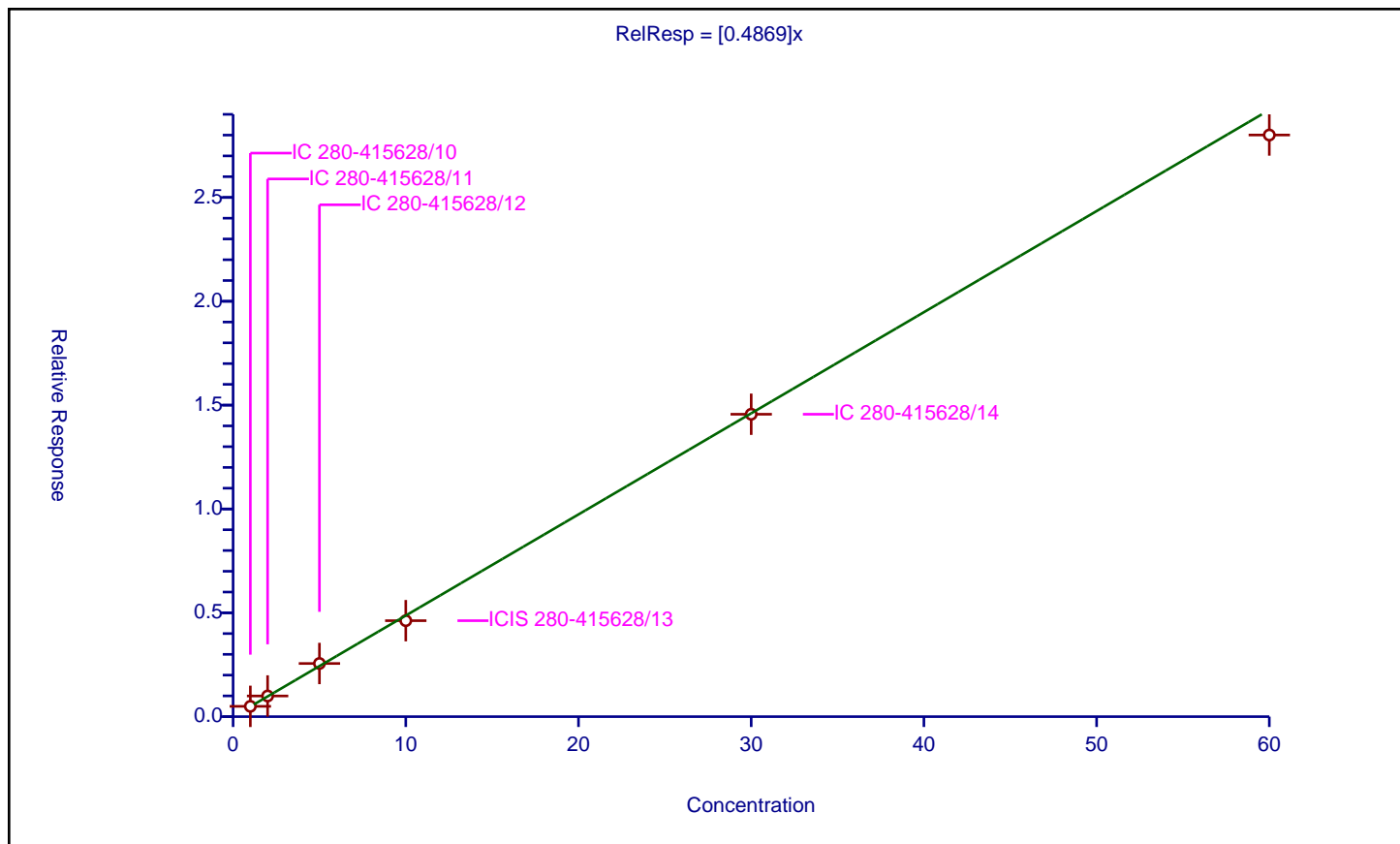
### Curve Coefficients

Intercept: 0  
 Slope: 0.4869

### Error Coefficients

Standard Error: 1520000  
 Relative Standard Error: 4.0  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	0.497224	12.5	1252580.0	0.497224	Y
2	IC 280-415628/11	2.0	0.99562	12.5	1305669.0	0.49781	Y
3	IC 280-415628/12	5.0	2.559575	12.5	1261689.0	0.511915	Y
4	ICIS 280-415628/13	10.0	4.620934	12.5	1349711.0	0.462093	Y
5	IC 280-415628/14	30.0	14.561424	12.5	1314625.0	0.485381	Y
6	IC 280-415628/15	60.0	28.005379	12.5	1333064.0	0.466756	Y





## Calibration

/ Tert-butyl ethyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

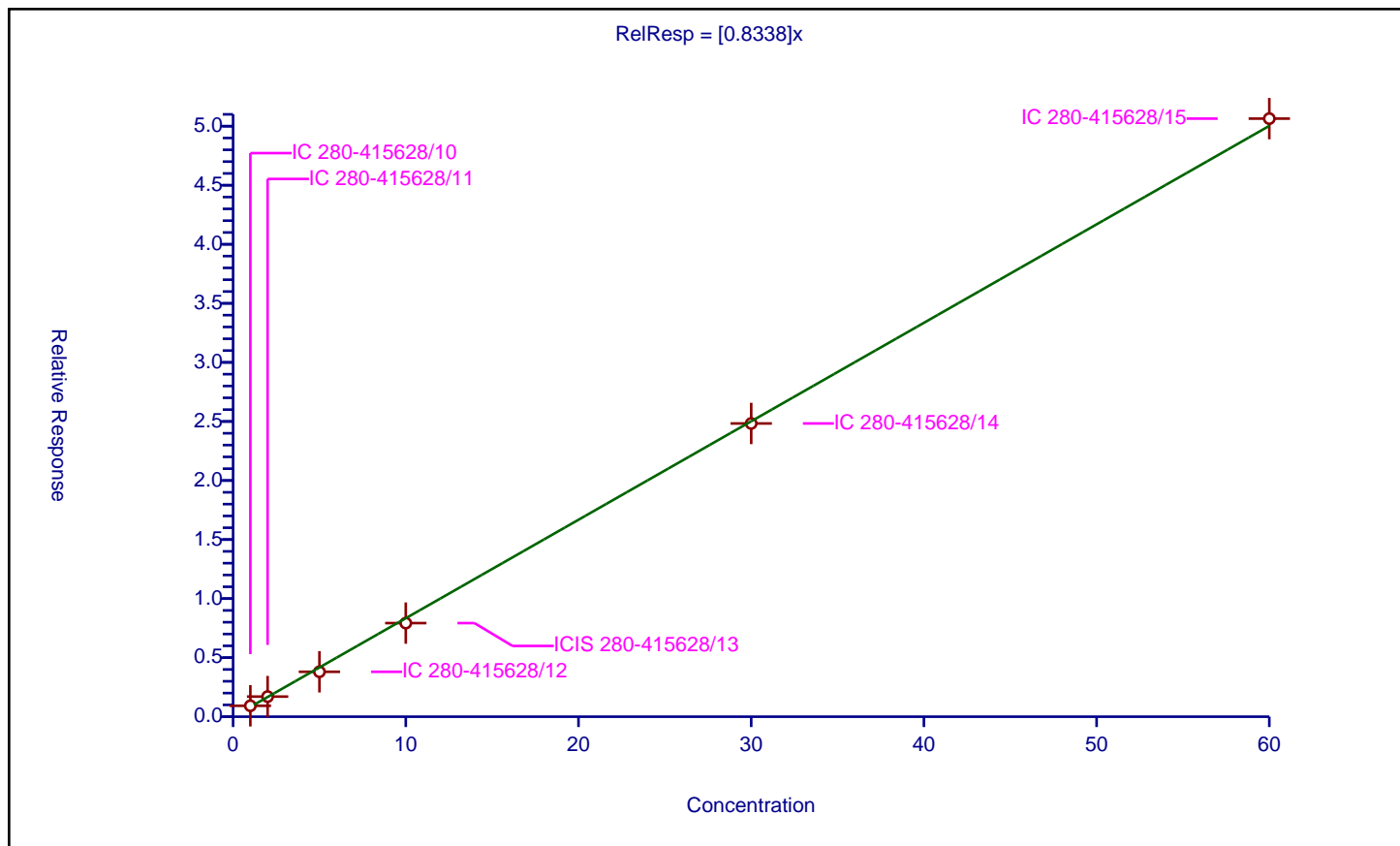
### Curve Coefficients

Intercept: 0  
 Slope: 0.8338

### Error Coefficients

Standard Error: 2720000  
 Relative Standard Error: 6.8  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	0.92529	12.5	1252580.0	0.92529	Y
2	IC 280-415628/11	2.0	1.704241	12.5	1305669.0	0.852121	Y
3	IC 280-415628/12	5.0	3.804801	12.5	1261689.0	0.76096	Y
4	ICIS 280-415628/13	10.0	7.925326	12.5	1349711.0	0.792533	Y
5	IC 280-415628/14	30.0	24.828763	12.5	1314625.0	0.827625	Y
6	IC 280-415628/15	60.0	50.639589	12.5	1333064.0	0.843993	Y





## Calibration

/ Ethyl acetate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

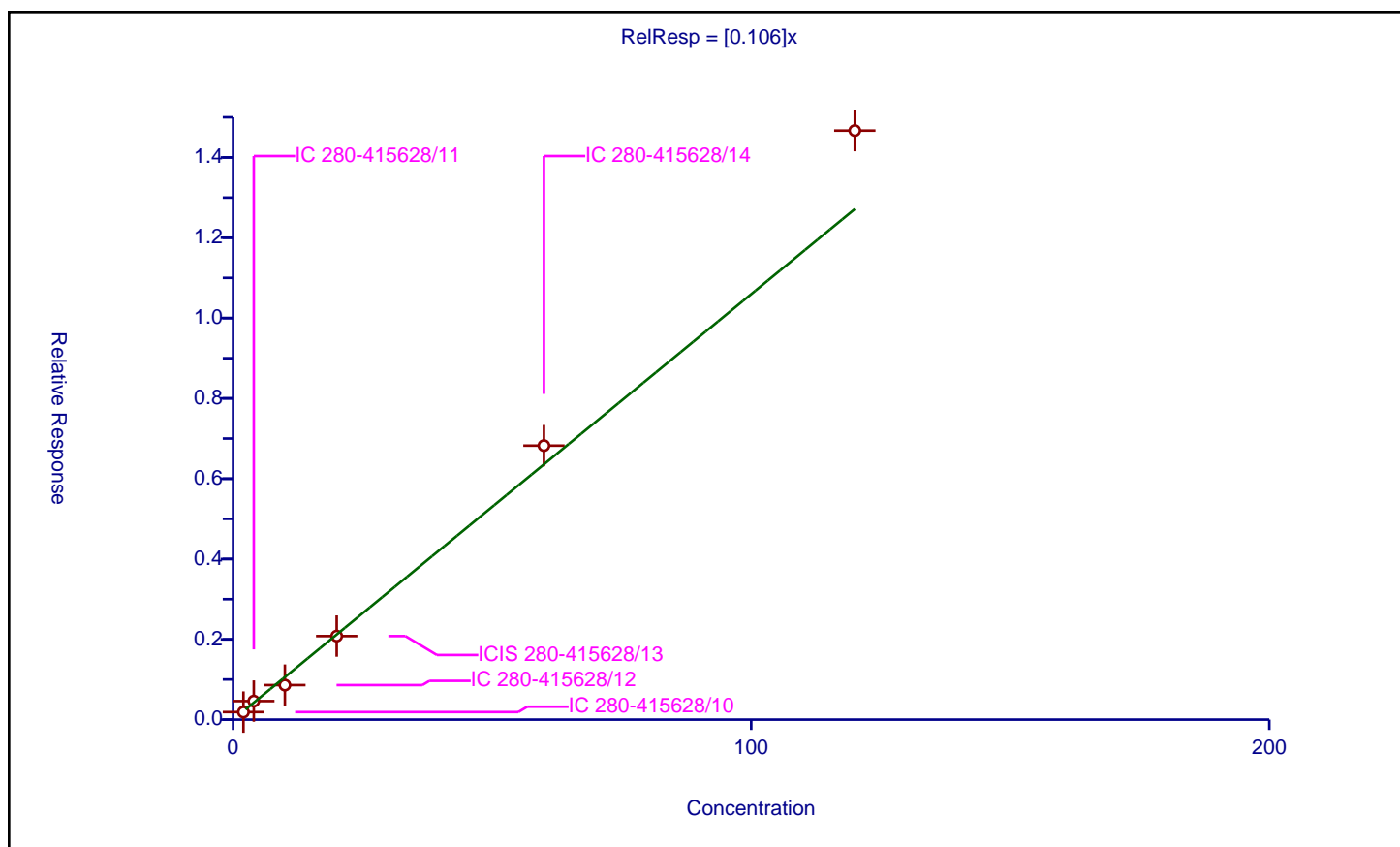
### Curve Coefficients

Intercept: 0  
 Slope: 0.106

### Error Coefficients

Standard Error: 778000  
 Relative Standard Error: 13.1  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.977

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	2.0	0.188251	12.5	1252580.0	0.094126	Y
2	IC 280-415628/11	4.0	0.462263	12.5	1305669.0	0.115566	Y
3	IC 280-415628/12	10.0	0.860216	12.5	1261689.0	0.086022	Y
4	ICIS 280-415628/13	20.0	2.080862	12.5	1349711.0	0.104043	Y
5	IC 280-415628/14	60.0	6.823857	12.5	1314625.0	0.113731	Y
6	IC 280-415628/15	120.0	14.669213	12.5	1333064.0	0.122243	Y





## Calibration

/ Propionitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

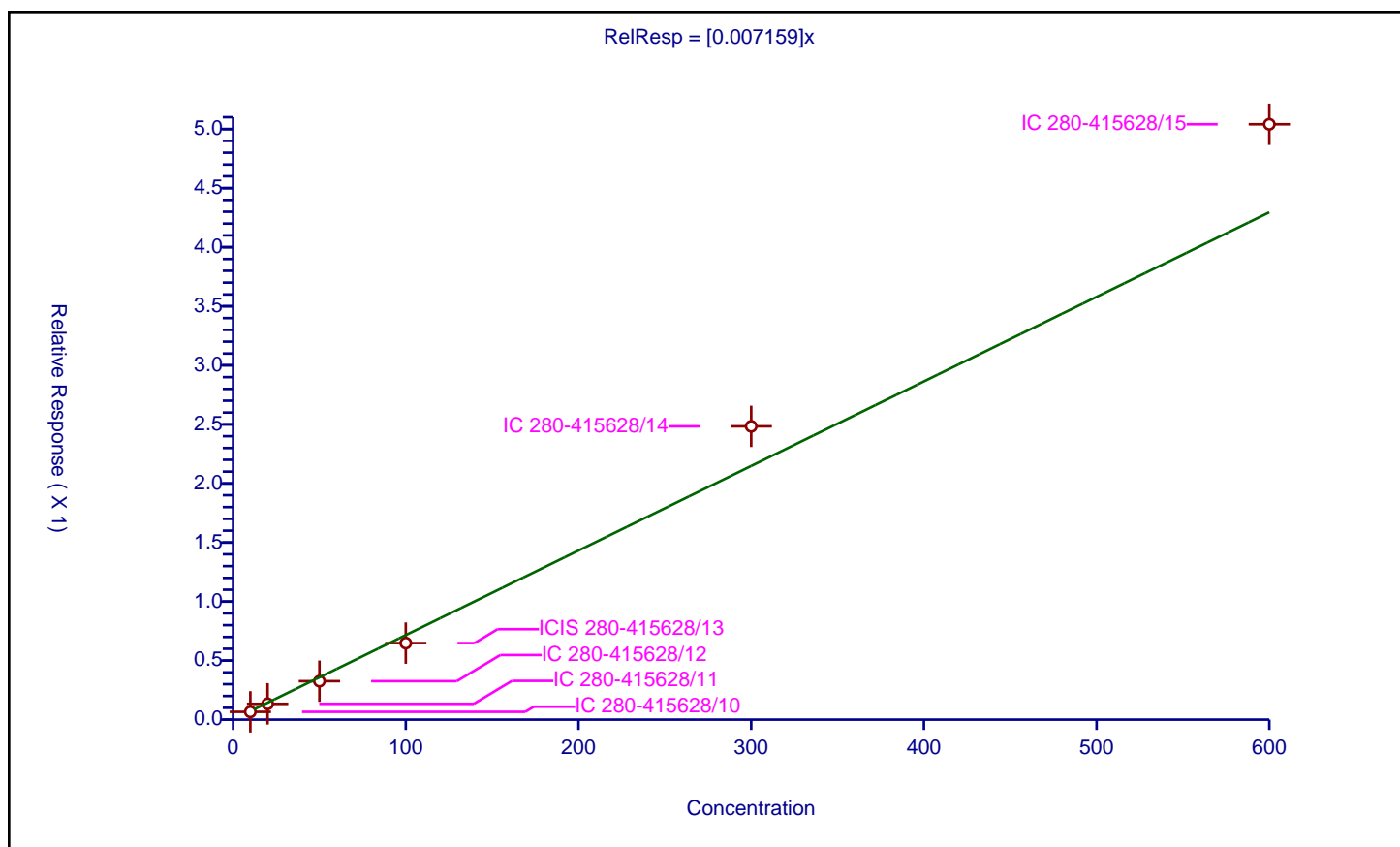
### Curve Coefficients

Intercept: 0  
 Slope: 0.007159

### Error Coefficients

Standard Error: 270000  
 Relative Standard Error: 12.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.978

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	10.0	0.065904	12.5	1252580.0	0.00659	Y
2	IC 280-415628/11	20.0	0.13382	12.5	1305669.0	0.006691	Y
3	IC 280-415628/12	50.0	0.325784	12.5	1261689.0	0.006516	Y
4	ICIS 280-415628/13	100.0	0.648046	12.5	1349711.0	0.00648	Y
5	IC 280-415628/14	300.0	2.483161	12.5	1314625.0	0.008277	Y
6	IC 280-415628/15	600.0	5.040643	12.5	1333064.0	0.008401	Y





## Calibration

/ Methacrylonitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

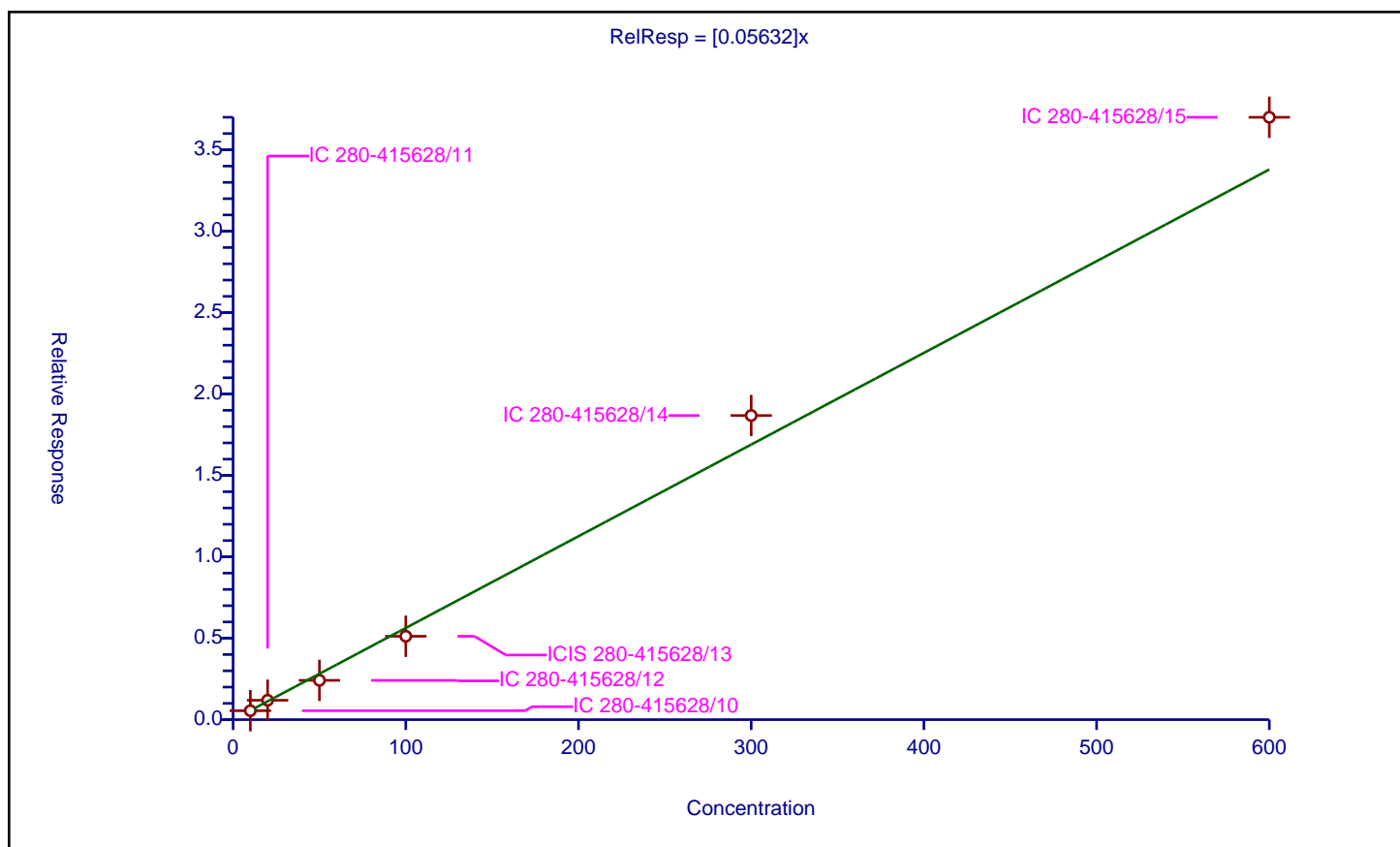
### Curve Coefficients

Intercept: 0  
 Slope: 0.05632

### Error Coefficients

Standard Error: 1990000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	10.0	0.549027	12.5	1252580.0	0.054903	Y
2	IC 280-415628/11	20.0	1.191678	12.5	1305669.0	0.059584	Y
3	IC 280-415628/12	50.0	2.413778	12.5	1261689.0	0.048276	Y
4	ICIS 280-415628/13	100.0	5.122106	12.5	1349711.0	0.051221	Y
5	IC 280-415628/14	300.0	18.681316	12.5	1314625.0	0.062271	Y
6	IC 280-415628/15	600.0	36.999077	12.5	1333064.0	0.061665	Y





## Calibration

/ Dibromofluoromethane (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

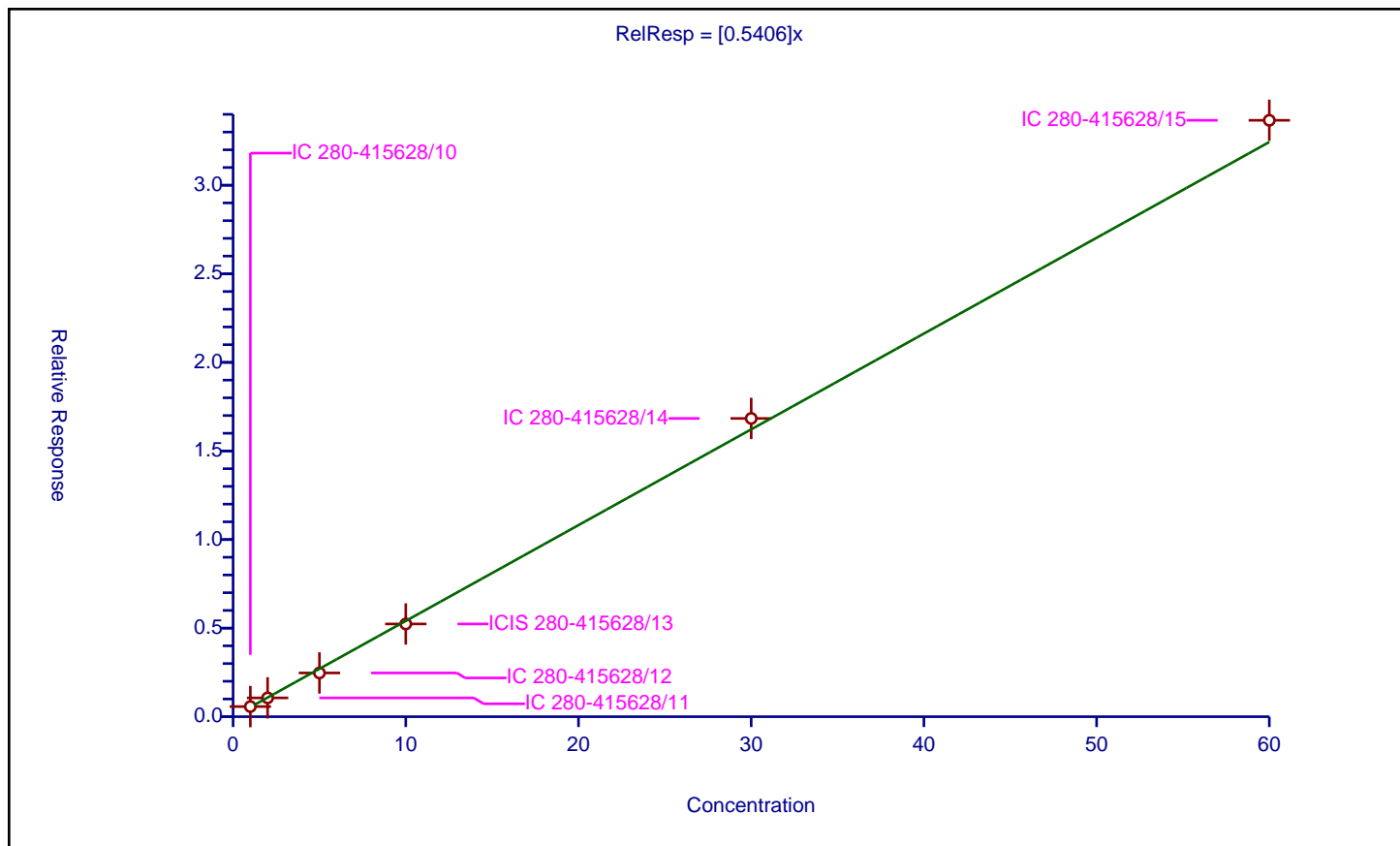
### Curve Coefficients

Intercept: 0  
 Slope: 0.5406

### Error Coefficients

Standard Error: 1810000  
 Relative Standard Error: 5.5  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	0.572319	12.5	1252580.0	0.572319	Y
2	IC 280-415628/11	2.0	1.062999	12.5	1305669.0	0.5315	Y
3	IC 280-415628/12	5.0	2.470438	12.5	1261689.0	0.494088	Y
4	ICIS 280-415628/13	10.0	5.236204	12.5	1349711.0	0.52362	Y
5	IC 280-415628/14	30.0	16.836798	12.5	1314625.0	0.561227	Y
6	IC 280-415628/15	60.0	33.664663	12.5	1333064.0	0.561078	Y





## Calibration

/ 1,2-Dichloroethane-d4 (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

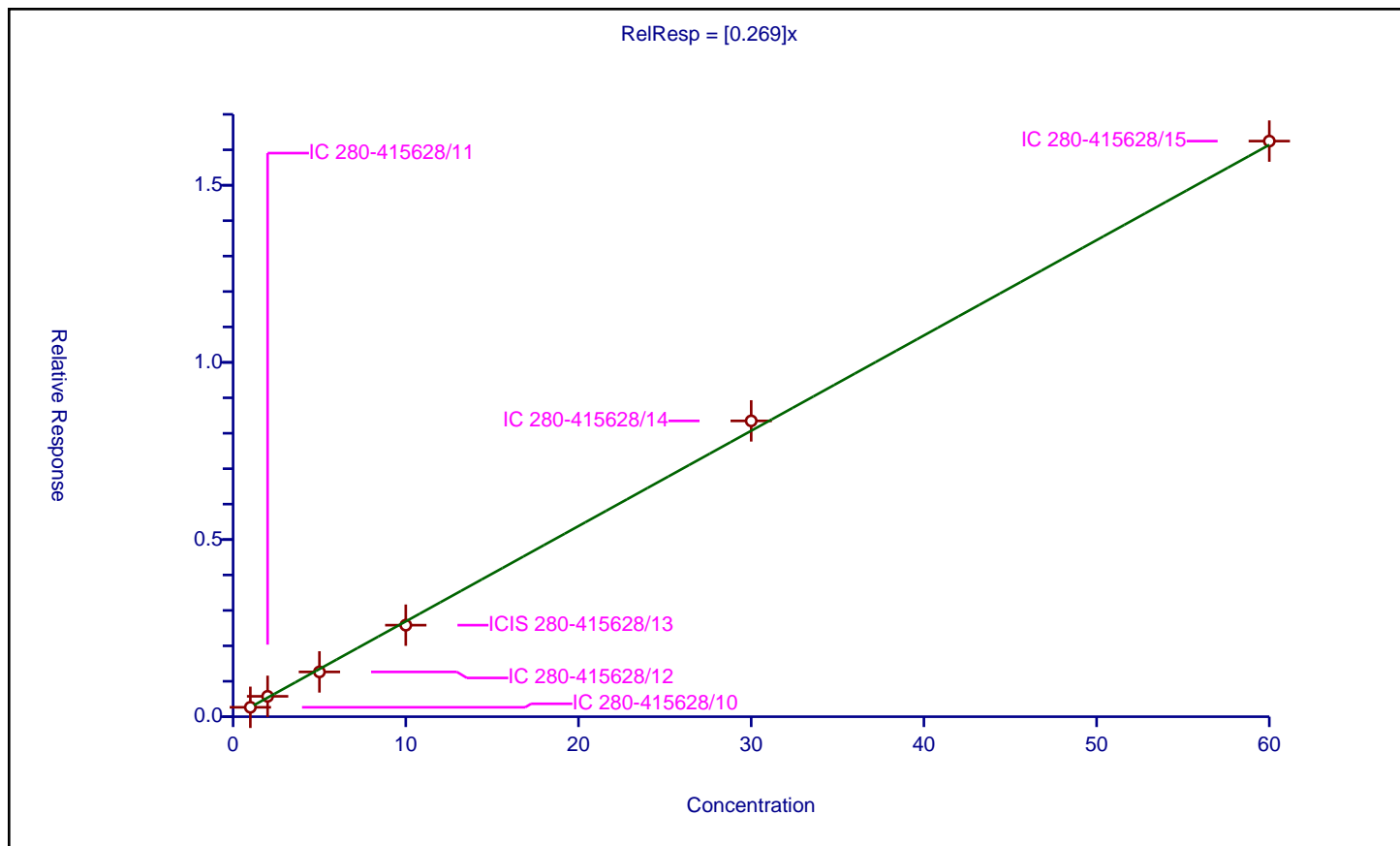
### Curve Coefficients

Intercept: 0  
 Slope: 0.269

### Error Coefficients

Standard Error: 880000  
 Relative Standard Error: 4.8  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	0.265981	12.5	1252580.0	0.265981	Y
2	IC 280-415628/11	2.0	0.575596	12.5	1305669.0	0.287798	Y
3	IC 280-415628/12	5.0	1.26396	12.5	1261689.0	0.252792	Y
4	ICIS 280-415628/13	10.0	2.583914	12.5	1349711.0	0.258391	Y
5	IC 280-415628/14	30.0	8.349225	12.5	1314625.0	0.278308	Y
6	IC 280-415628/15	60.0	16.245263	12.5	1333064.0	0.270754	Y





## Calibration

/ Tert-amyl methyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

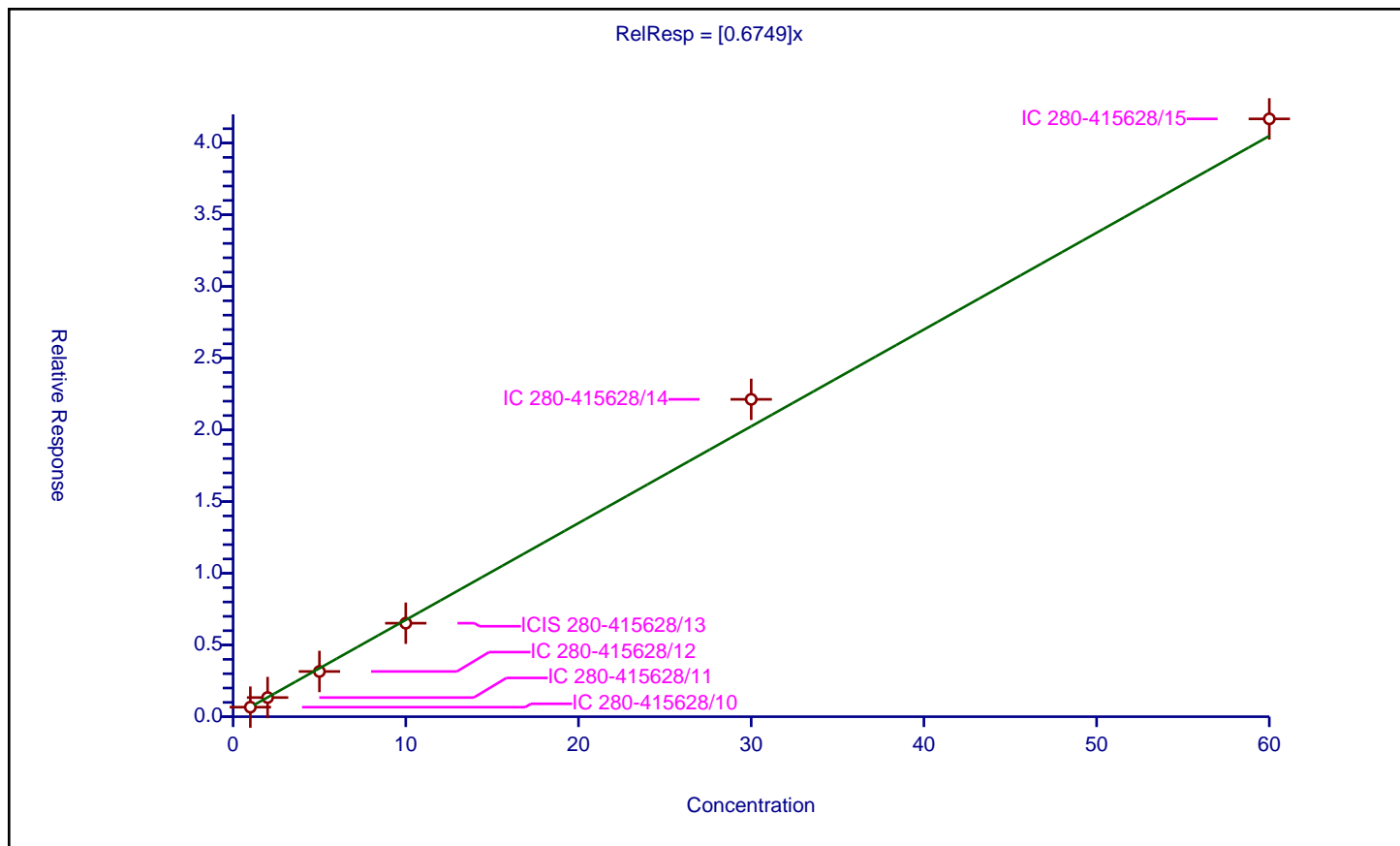
### Curve Coefficients

Intercept: 0  
 Slope: 0.6749

### Error Coefficients

Standard Error: 2270000  
 Relative Standard Error: 5.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	0.666125	12.5	1252580.0	0.666125	Y
2	IC 280-415628/11	2.0	1.336413	12.5	1305669.0	0.668206	Y
3	IC 280-415628/12	5.0	3.153729	12.5	1261689.0	0.630746	Y
4	ICIS 280-415628/13	10.0	6.519201	12.5	1349711.0	0.65192	Y
5	IC 280-415628/14	30.0	22.128915	12.5	1314625.0	0.737631	Y
6	IC 280-415628/15	60.0	41.68503	12.5	1333064.0	0.69475	Y





## Calibration

/ n-Butanol

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

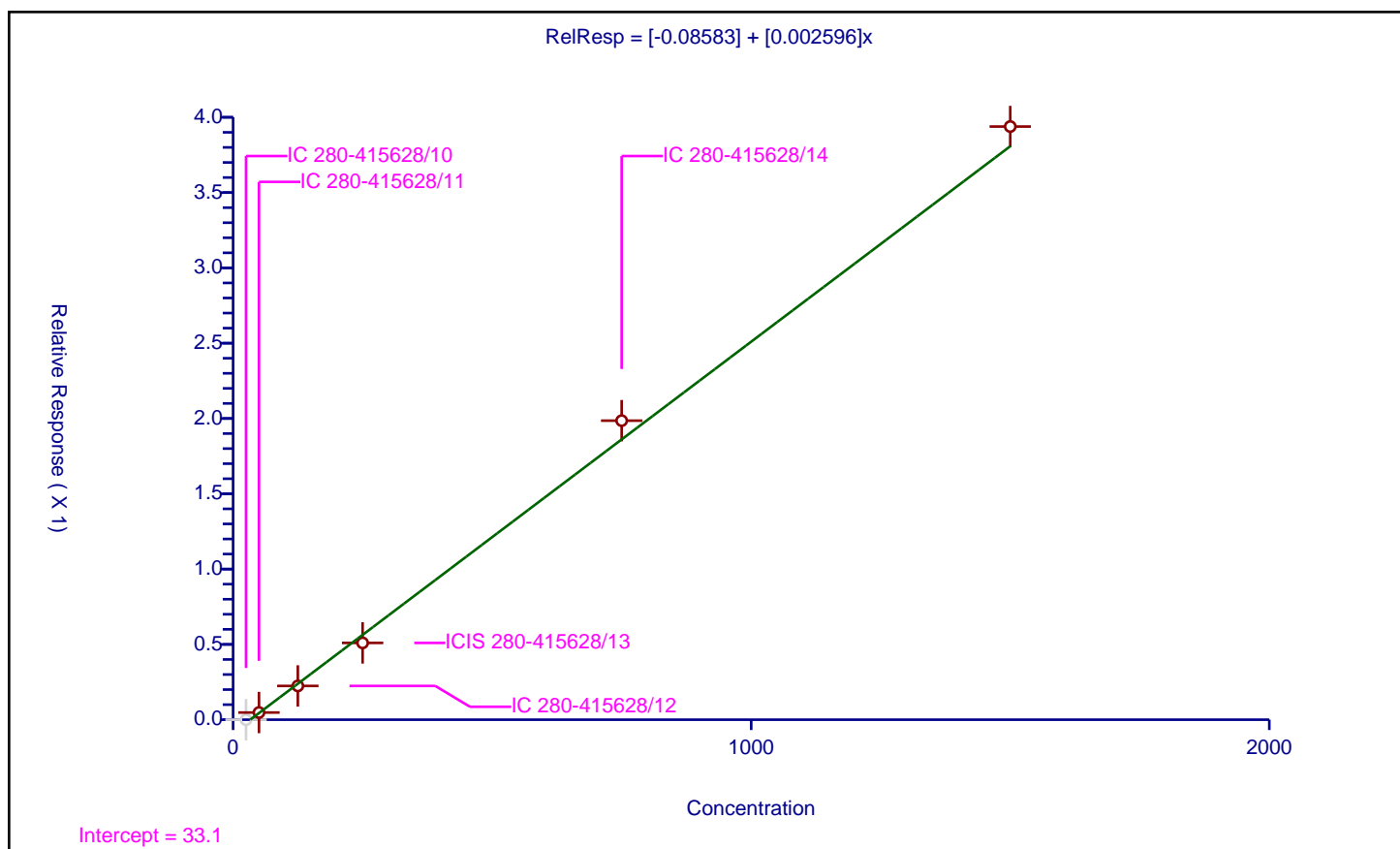
### Curve Coefficients

Intercept: -0.08583  
 Slope: 0.002596

### Error Coefficients

Standard Error: 273000  
 Relative Standard Error: 7.0  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	25.0	0.0	12.5	1252580.0	0.0	N
2	IC 280-415628/11	50.0	0.047686	12.5	1305669.0	0.000954	Y
3	IC 280-415628/12	125.0	0.224233	12.5	1261689.0	0.001794	Y
4	ICIS 280-415628/13	250.0	0.509905	12.5	1349711.0	0.00204	Y
5	IC 280-415628/14	750.0	1.985585	12.5	1314625.0	0.002647	Y
6	IC 280-415628/15	1500.0	3.938492	12.5	1333064.0	0.002626	Y





## Calibration

/ Methyl methacrylate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

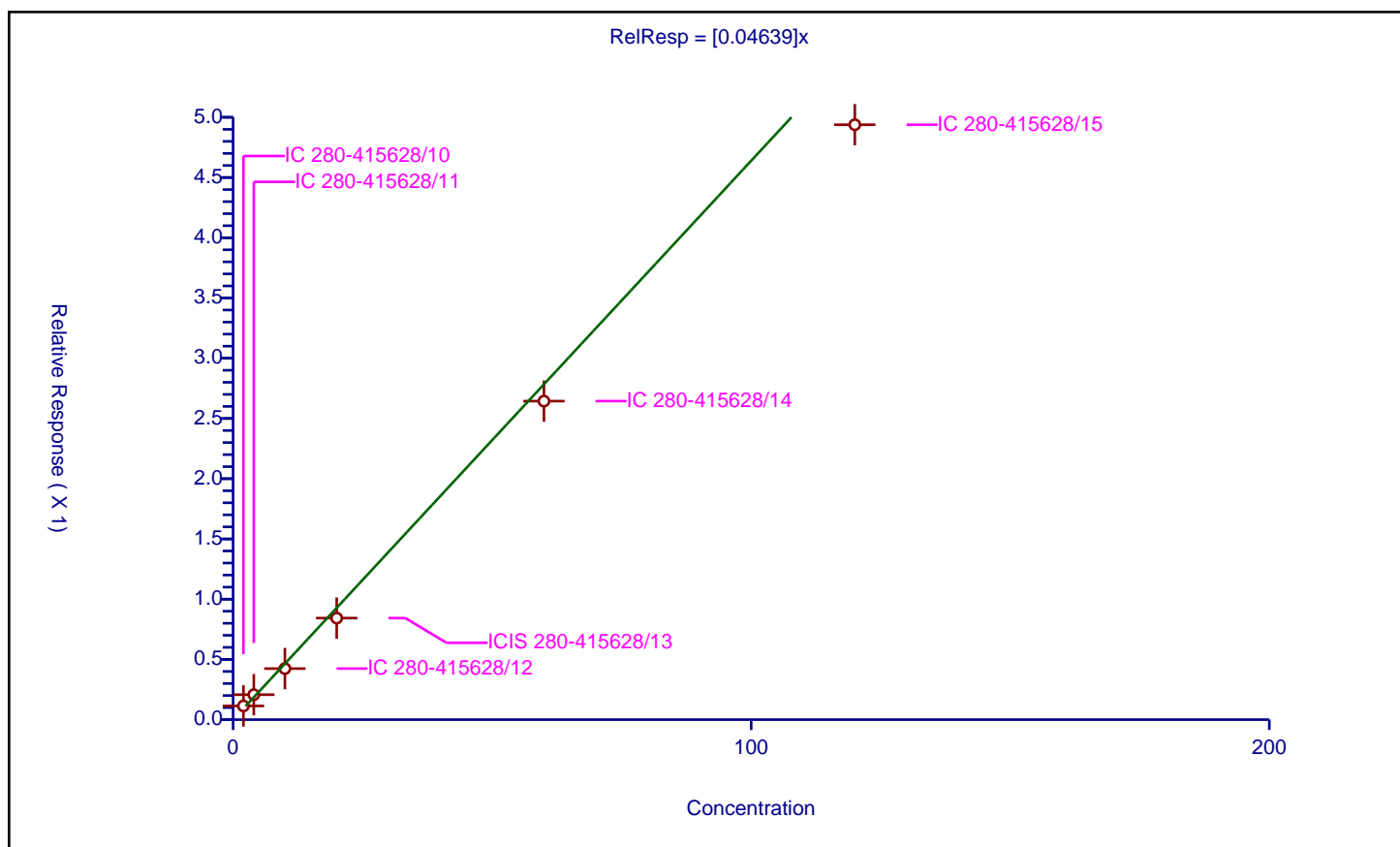
### Curve Coefficients

Intercept: 0  
 Slope: 0.04639

### Error Coefficients

Standard Error: 270000  
 Relative Standard Error: 13.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.965

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	2.0	0.113695	12.5	1252580.0	0.056848	Y
2	IC 280-415628/11	4.0	0.207116	12.5	1305669.0	0.051779	Y
3	IC 280-415628/12	10.0	0.423807	12.5	1261689.0	0.042381	Y
4	ICIS 280-415628/13	20.0	0.842819	12.5	1349711.0	0.042141	Y
5	IC 280-415628/14	60.0	2.643995	12.5	1314625.0	0.044067	Y
6	IC 280-415628/15	120.0	4.938126	12.5	1333064.0	0.041151	Y





## Calibration

/ 2-Nitropropane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

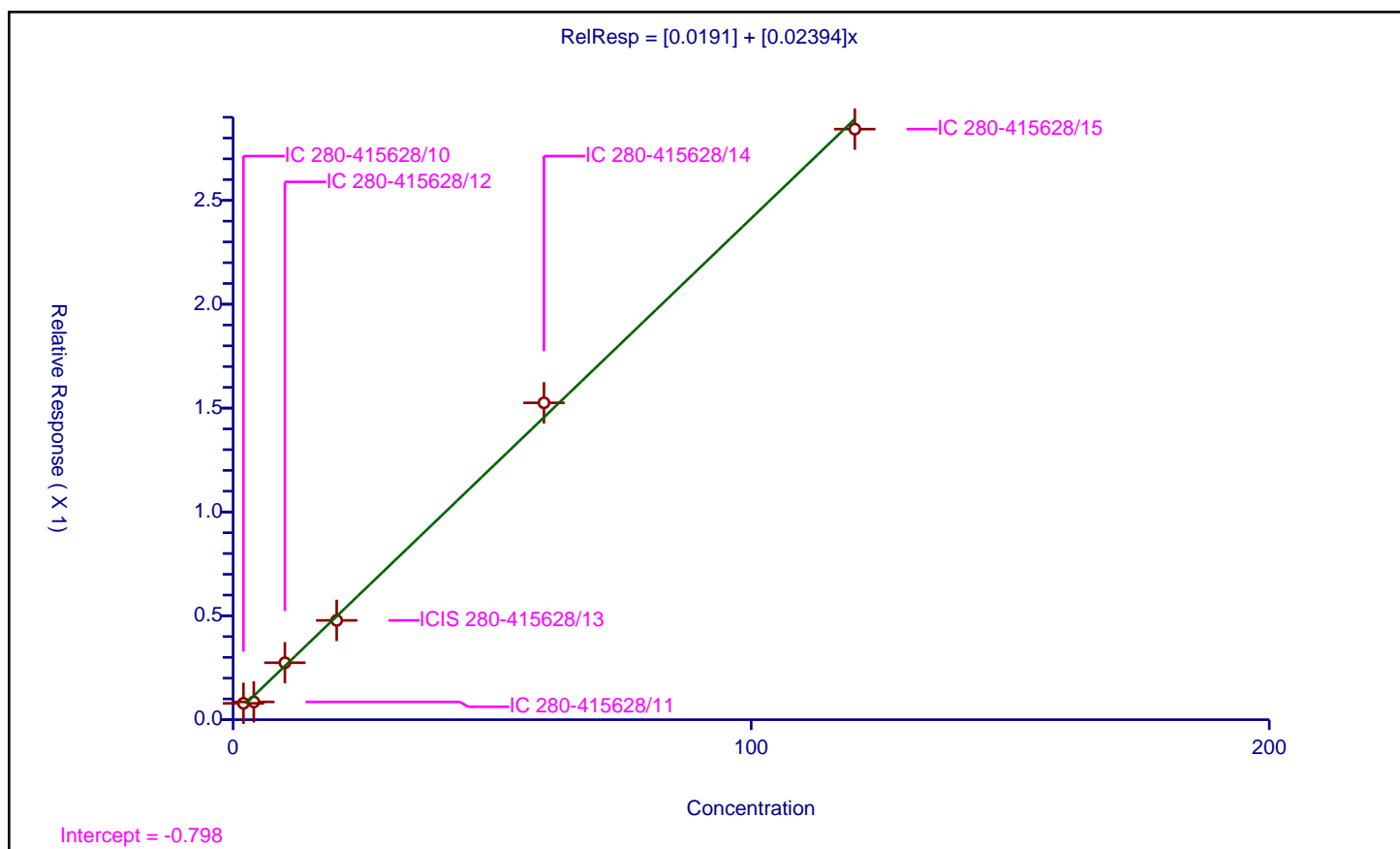
### Curve Coefficients

Intercept: 0.0191  
 Slope: 0.02394

### Error Coefficients

Standard Error: 174000  
 Relative Standard Error: 20.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	2.0	0.078857	12.5	1252580.0	0.039429	Y
2	IC 280-415628/11	4.0	0.085694	12.5	1305669.0	0.021423	Y
3	IC 280-415628/12	10.0	0.274265	12.5	1261689.0	0.027427	Y
4	ICIS 280-415628/13	20.0	0.478093	12.5	1349711.0	0.023905	Y
5	IC 280-415628/14	60.0	1.525426	12.5	1314625.0	0.025424	Y
6	IC 280-415628/15	120.0	2.843121	12.5	1333064.0	0.023693	Y





## Calibration

/ Toluene-d8 (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

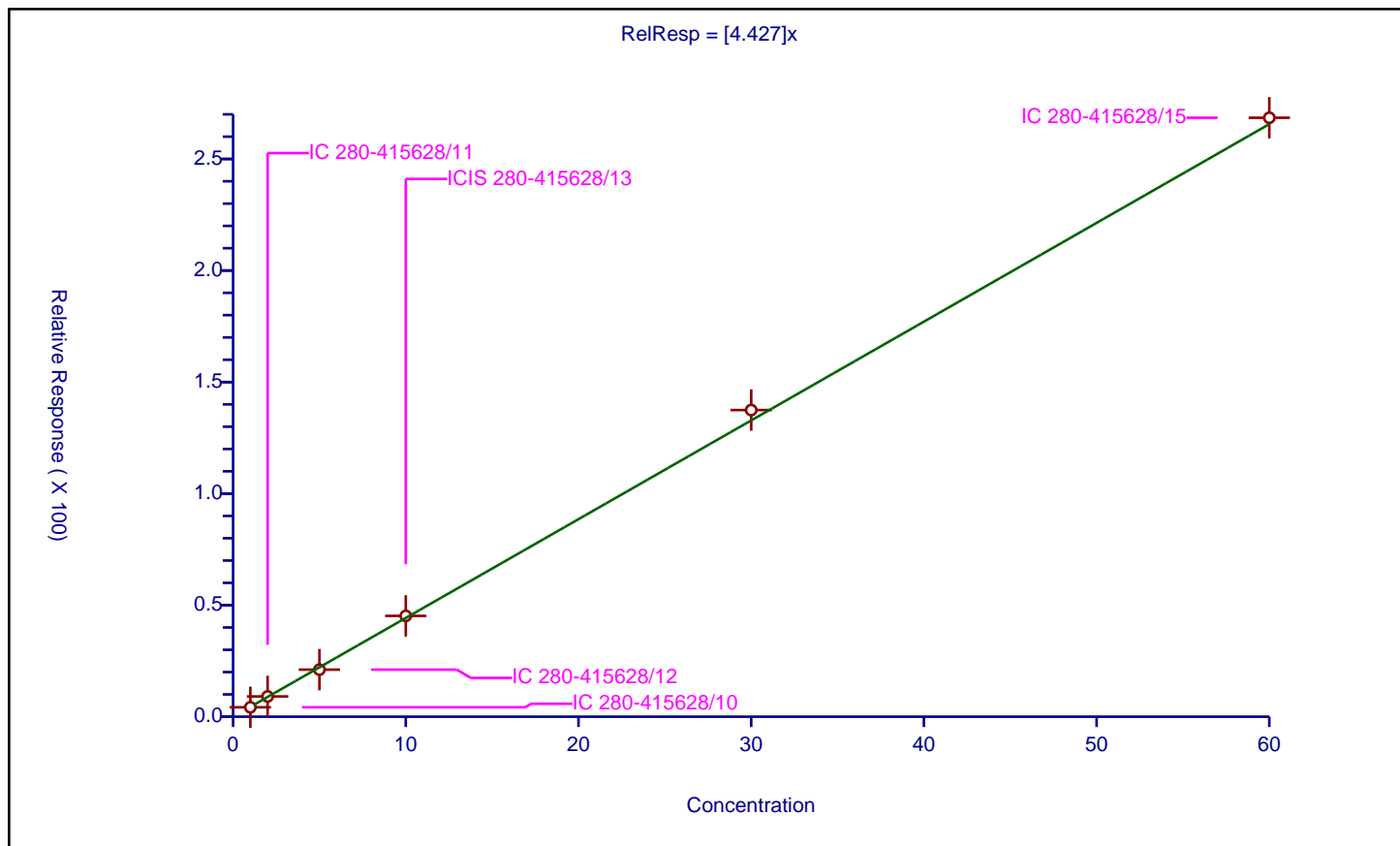
### Curve Coefficients

Intercept: 0  
 Slope: 4.427

### Error Coefficients

Standard Error: 3500000  
 Relative Standard Error: 3.7  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	4.222771	12.5	309616.0	4.222771	Y
2	IC 280-415628/11	2.0	9.086573	12.5	318126.0	4.543286	Y
3	IC 280-415628/12	5.0	21.103975	12.5	304400.0	4.220795	Y
4	ICIS 280-415628/13	10.0	45.190336	12.5	321457.0	4.519034	Y
5	IC 280-415628/14	30.0	137.452187	12.5	313201.0	4.58174	Y
6	IC 280-415628/15	60.0	268.481906	12.5	321879.0	4.474698	Y





## Calibration

## / Tetrahydrothiophene

Curve Type: Linear  
Weighting: Conc\_Sq  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

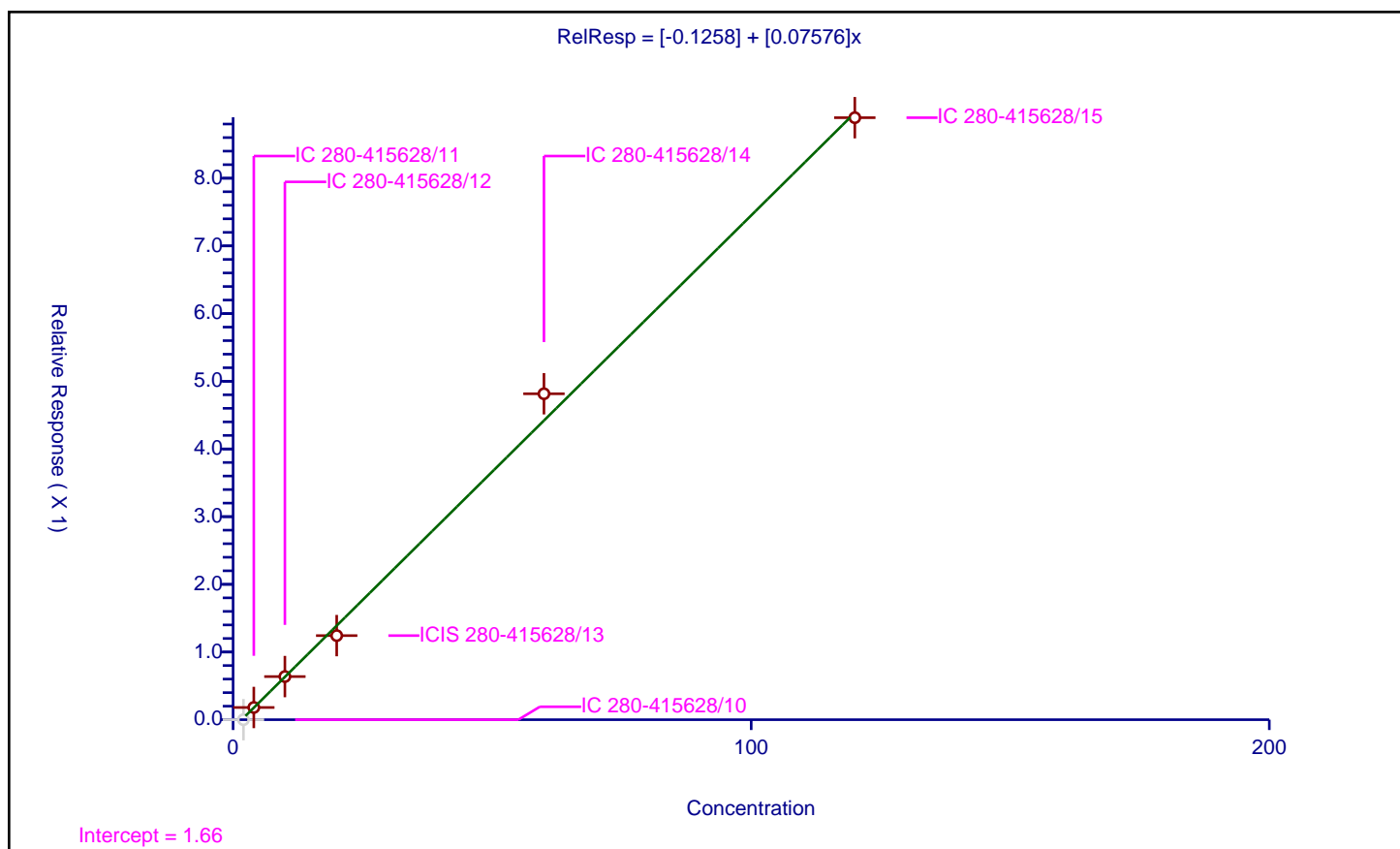
## Curve Coefficients

Intercept: -0.1258  
Slope: 0.07576

## Error Coefficients

Standard Error: 151000  
Relative Standard Error: 7.6  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	2.0	0.0	12.5	309616.0	0.0	N
2	IC 280-415628/11	4.0	0.180589	12.5	318126.0	0.045147	Y
3	IC 280-415628/12	10.0	0.63695	12.5	304400.0	0.063695	Y
4	ICIS 280-415628/13	20.0	1.242157	12.5	321457.0	0.062108	Y
5	IC 280-415628/14	60.0	4.815518	12.5	313201.0	0.080259	Y
6	IC 280-415628/15	120.0	8.893909	12.5	321879.0	0.074116	Y





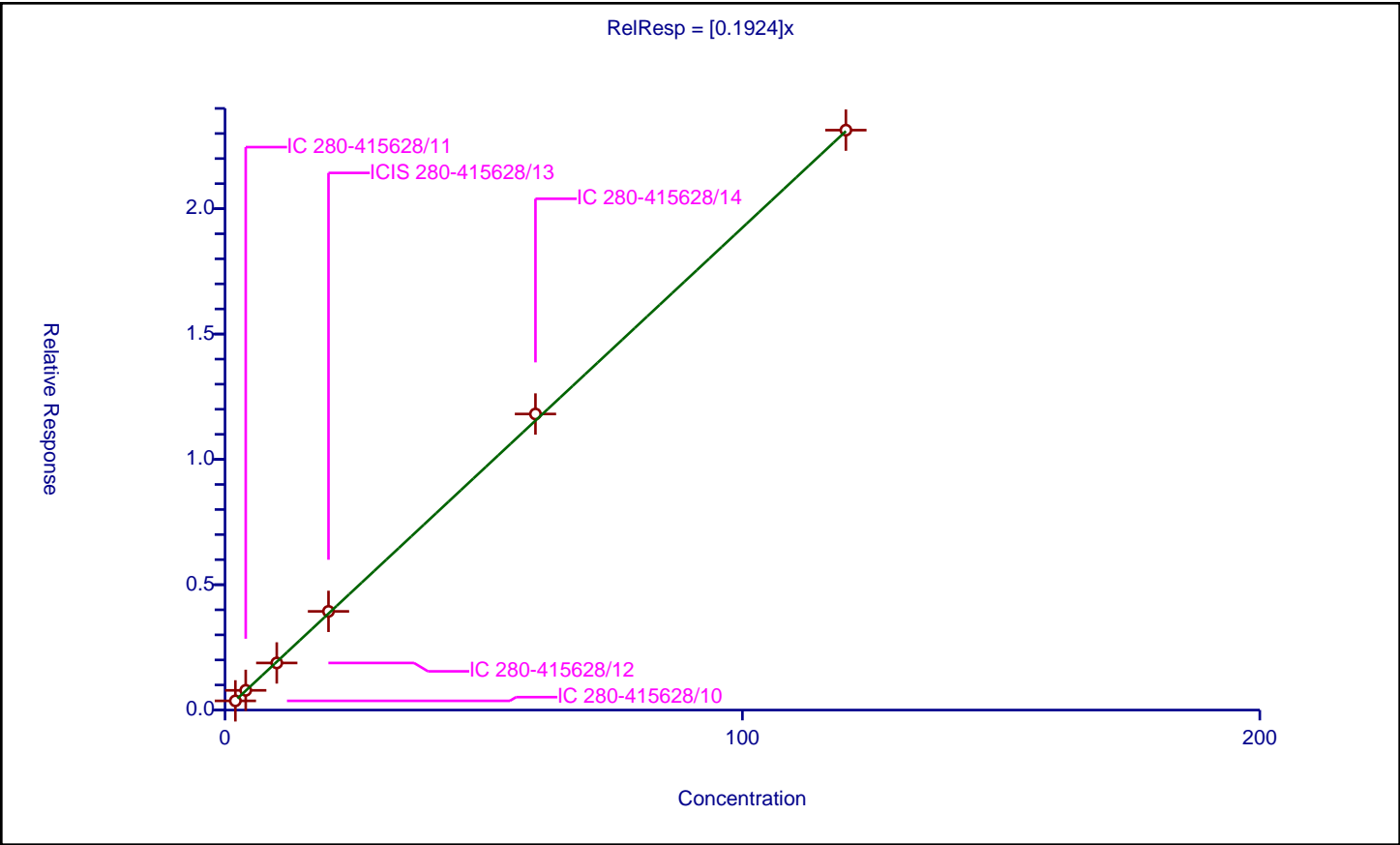
Calibration

/ cis-1,4-Dichloro-2-butene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.1924
Error Coefficients	
Standard Error:	470000
Relative Standard Error:	2.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	2.0	0.367264	12.5	468124.0	0.183632	Y
2	IC 280-415628/11	4.0	0.786315	12.5	489864.0	0.196579	Y
3	IC 280-415628/12	10.0	1.879607	12.5	455421.0	0.187961	Y
4	ICIS 280-415628/13	20.0	3.937189	12.5	467402.0	0.196859	Y
5	IC 280-415628/14	60.0	11.810083	12.5	485276.0	0.196835	Y
6	IC 280-415628/15	120.0	23.133484	12.5	502996.0	0.192779	Y





## Calibration

/ 4-Bromofluorobenzene (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

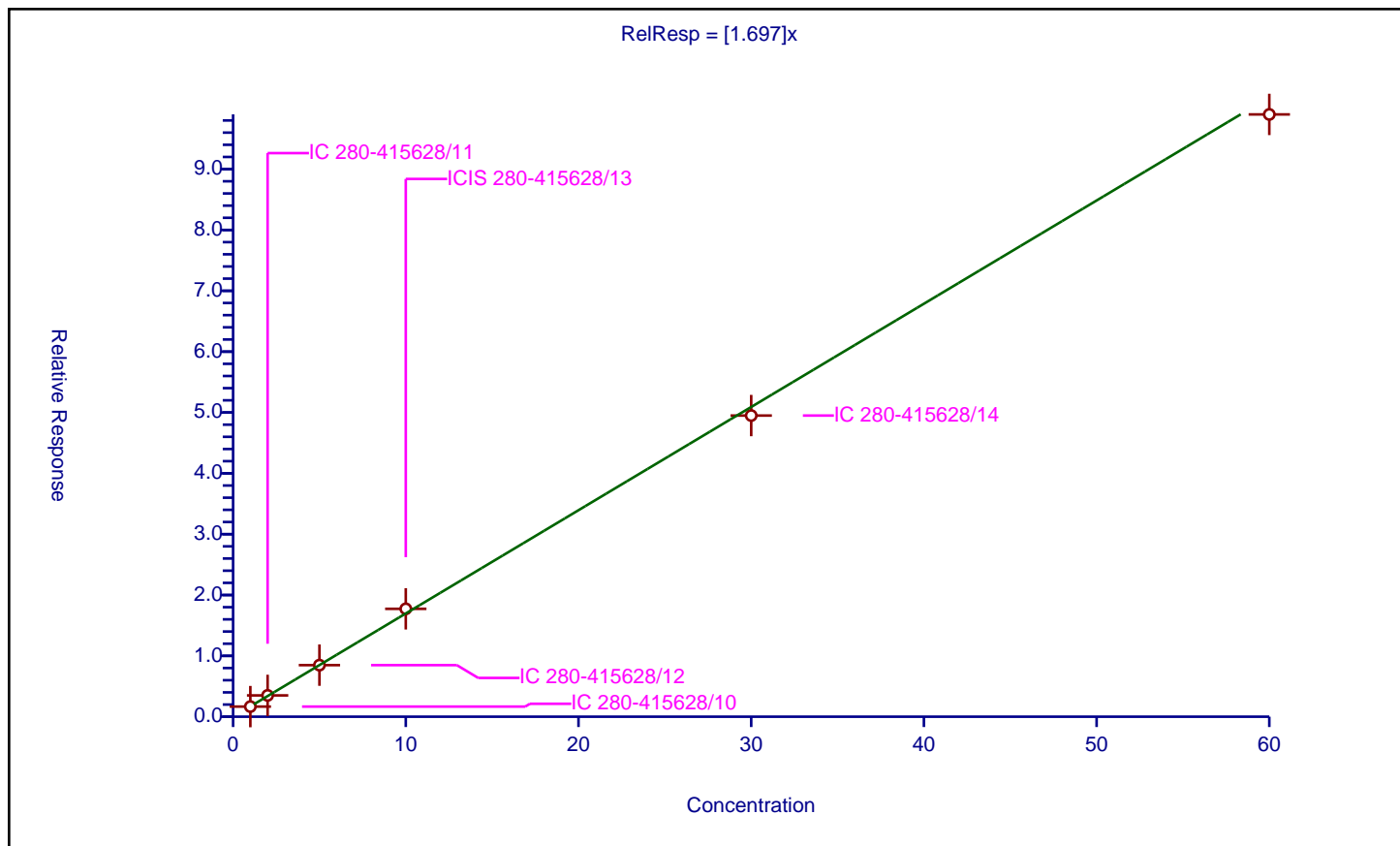
### Curve Coefficients

Intercept: 0  
 Slope: 1.697

### Error Coefficients

Standard Error: 2010000  
 Relative Standard Error: 3.2  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	1.662113	12.5	468124.0	1.662113	Y
2	IC 280-415628/11	2.0	3.501635	12.5	489864.0	1.750818	Y
3	IC 280-415628/12	5.0	8.477156	12.5	455421.0	1.695431	Y
4	ICIS 280-415628/13	10.0	17.731444	12.5	467402.0	1.773144	Y
5	IC 280-415628/14	30.0	49.497709	12.5	485276.0	1.649924	Y
6	IC 280-415628/15	60.0	98.989729	12.5	502996.0	1.649829	Y





## Calibration

/ 1,2,3-Trimethylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

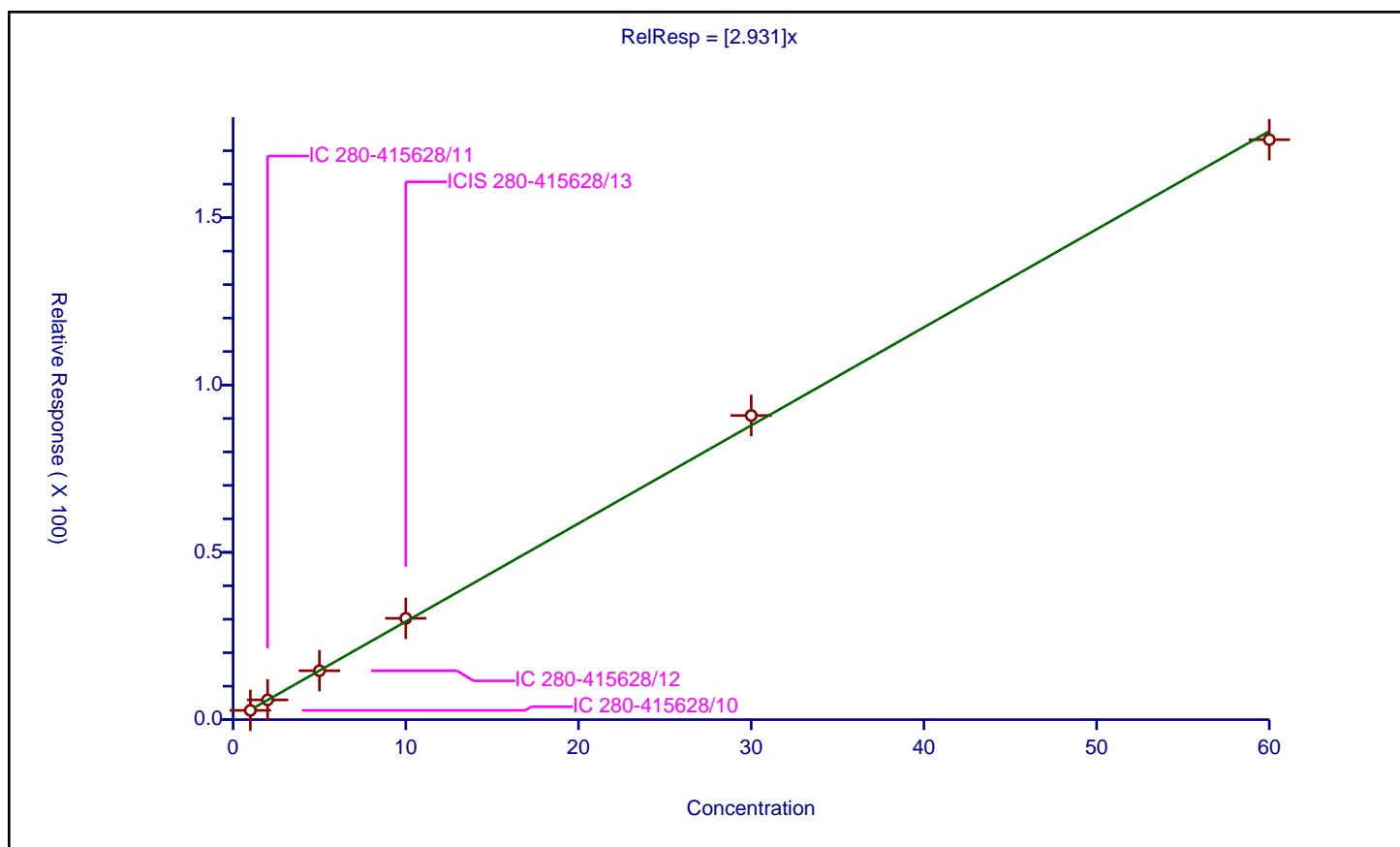
### Curve Coefficients

Intercept: 0  
 Slope: 2.931

### Error Coefficients

Standard Error: 3540000  
 Relative Standard Error: 3.4  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	2.766468	12.5	468124.0	2.766468	Y
2	IC 280-415628/11	2.0	5.896841	12.5	489864.0	2.94842	Y
3	IC 280-415628/12	5.0	14.618479	12.5	455421.0	2.923696	Y
4	ICIS 280-415628/13	10.0	30.277283	12.5	467402.0	3.027728	Y
5	IC 280-415628/14	30.0	90.878309	12.5	485276.0	3.029277	Y
6	IC 280-415628/15	60.0	173.301229	12.5	502996.0	2.888354	Y





## Calibration

/ 1,3,5-Trichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

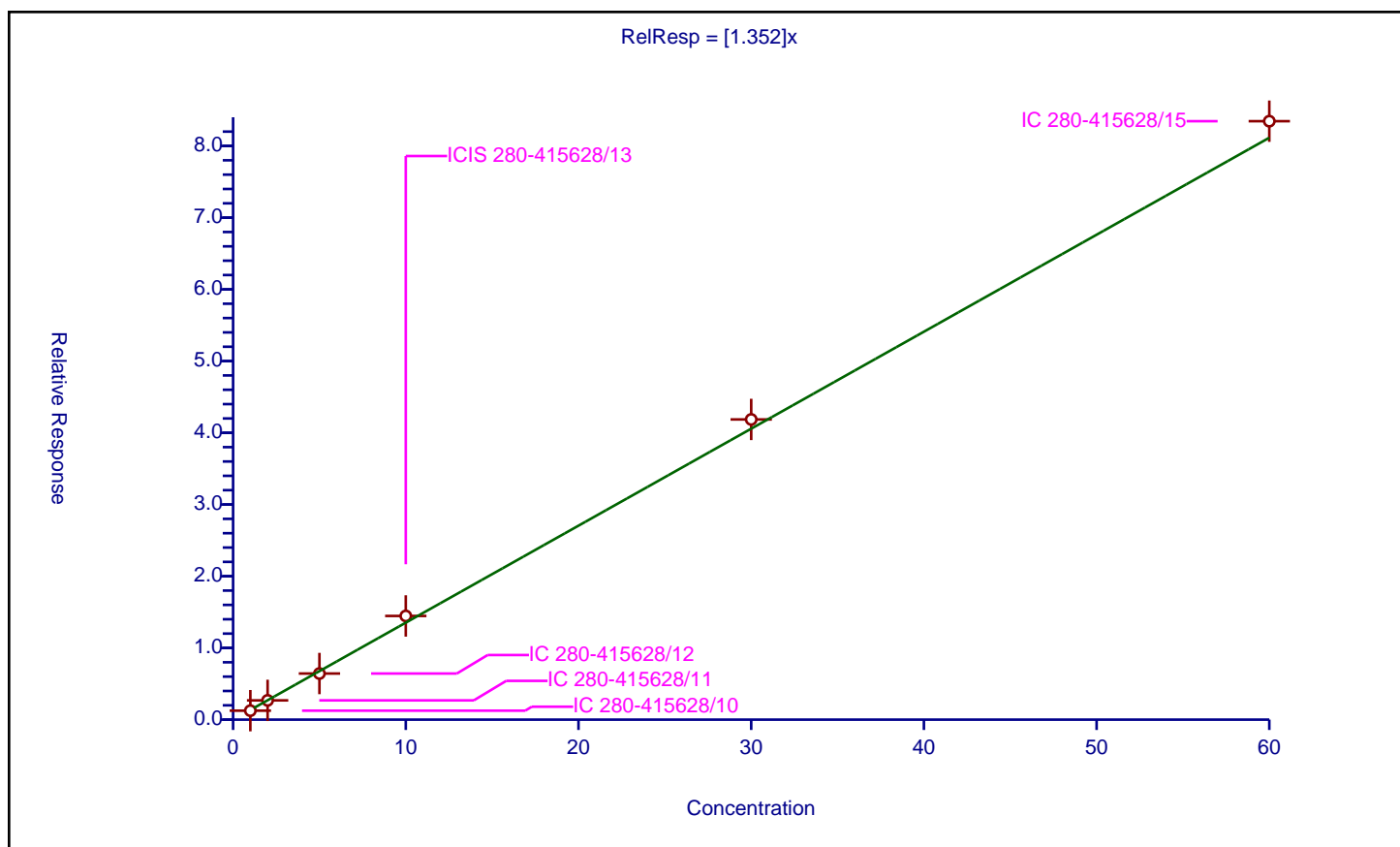
### Curve Coefficients

Intercept: 0  
 Slope: 1.352

### Error Coefficients

Standard Error: 1690000  
 Relative Standard Error: 5.4  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	IC 280-415628/10	1.0	1.25282	12.5	468124.0	1.25282	Y
2	IC 280-415628/11	2.0	2.687379	12.5	489864.0	1.343689	Y
3	IC 280-415628/12	5.0	6.429573	12.5	455421.0	1.285915	Y
4	ICIS 280-415628/13	10.0	14.459635	12.5	467402.0	1.445964	Y
5	IC 280-415628/14	30.0	41.863625	12.5	485276.0	1.395454	Y
6	IC 280-415628/15	60.0	83.454814	12.5	502996.0	1.390914	Y





FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-419443/10	H7636.D
Level 2	STD01 280-419443/11	H7637.D
Level 3	STD02 280-419443/12	H7638.D
Level 4	STD05 280-419443/13	H7639.D
Level 5	ICIS 280-419443/14	H7640.D
Level 6	STD30 280-419443/15	H7641.D
Level 7	STD60 280-419443/16	H7642.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3909 0.6243	0.4332 0.6024	0.4689	0.4876	0.6006	Lin1	-0.123	0.6063							0.9980		0.9900
Chloromethane	++++ 0.3383	0.2733 0.3213	0.2892	0.2554	0.2954	Ave		0.2955			0.1000	10.3		15.0			
Vinyl chloride	++++ 0.2905	0.2390 0.2846	0.2455	0.2175	0.2710	Ave		0.2580				11.1		30.0			
Bromomethane	0.2747 0.2885	0.2891 0.2642	0.2865	0.2497	0.2935	Ave		0.2780				5.8		15.0			
Chloroethane	++++ 0.1730	0.1691 0.1427	0.1653	0.1487	0.1732	Ave		0.1620				8.1		15.0			
Dichlorofluoromethane	0.6559 0.7440	0.6999 0.7180	0.7206	0.6120	0.7220	Ave		0.6961				6.6		15.0			
Trichlorofluoromethane	0.6996 0.8642	0.7708 0.8251	0.7891	0.7048	0.8476	Ave		0.7859				8.3		15.0			
Ethyl ether	0.1213 0.1273	0.1242 0.1369	0.1350	0.1056	0.1316	Ave		0.1260				8.4		15.0			
Acrolein	++++ 0.0094	0.0104 0.0114	0.0114	0.0079	0.0104	Ave		0.0102				13.1		15.0			
1,1-Dichloroethene	0.2415 0.3013	0.3045 0.3124	0.3004	0.2636	0.3220	Ave		0.2922				9.9		30.0			
Freon 113	0.3726 0.4661	0.4454 0.4862	0.4691	0.4337	0.4959	Ave		0.4527				9.1		15.0			
Acetone	++++ 0.0192	++++ 0.0198	0.0222	0.0159	0.0193	Ave		0.0193				11.7		15.0			
Iodomethane	0.6670 0.8121	0.7649 0.8726	0.7905	0.7523	0.8510	Ave		0.7872				8.7		15.0			
Carbon disulfide	0.9355 1.0535	1.0207 1.0955	1.0506	0.9599	1.1180	Ave		1.0334				6.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.5994 0.4063	0.4221 0.4316	0.4133	0.3865	0.4392	Lin2	0.0553	0.4016							0.9950		0.9900
Methyl acetate	++++ 0.0611	0.0571 0.0711	0.0729	0.0563	0.0678	Ave		0.0644				11.2		15.0			
Methylene Chloride	0.3747 0.2576	0.2928 0.2759	0.2849	0.2447	0.2775	Lin2	0.0335	0.2621							0.9970		0.9900
Tert-butyl alcohol (2-methyl-2-propanol)	++++ 0.9346	1.0659 0.9867	1.0569	1.1014	1.0861	Ave		1.0386				6.2		15.0			
Acrylonitrile	0.0114 0.0199	0.0183 0.0221	0.0209	0.0183	0.0204	Lin2	-0.028	0.0208							0.9960		0.9900
trans-1,2-Dichloroethene	0.2737 0.3472	0.3435 0.3675	0.3564	0.3521	0.3744	Ave		0.3450				9.6		15.0			
Methyl tert-butyl ether	0.4796 0.5141	0.4981 0.5740	0.5516	0.5039	0.5399	Ave		0.5230				6.4		15.0			
Hexane	1.7395 1.8182	1.8866 1.8860	1.9261	1.9297	1.9976	Ave		1.8834				4.4		15.0			
1,1-Dichloroethane	0.5746 0.6313	0.6214 0.6631	0.6647	0.6735	0.6611	Ave		0.6414			0.1000	5.5		15.0			
Vinyl acetate	++++ 0.2783	0.2604 0.3139	0.2727	0.2748	0.2919	Ave		0.2820				6.6		15.0			
cis-1,2-Dichloroethene	0.3065 0.3576	0.3503 0.3853	0.3725	0.3742	0.3815	Ave		0.3611				7.5		15.0			
2,2-Dichloropropane	2.4765 0.6686	1.2192 ++++	0.9895	0.8168	0.7347	Lin1	0.5663	0.6632							0.9990		0.9900
Methyl ethyl ketone (MEK)	++++ 0.0382	0.0383 0.0404	0.0402	0.0375	0.0368	Ave		0.0386				3.7		15.0			
sec-Butyl Alcohol	++++ 0.8189	0.7860 0.8674	0.8694	1.0223	0.8993	Ave		0.8772				9.3		15.0			
Chlorobromomethane	0.1124 0.1773	0.1673 0.1925	0.1802	0.1843	0.1848	Lin2	-0.022	0.1878							0.9990		0.9900
Tetrahydrofuran	++++ 0.0248	++++ 0.0284	0.0318	0.0299	0.0274	Ave		0.0284				9.2		15.0			
Chloroform	0.6234 0.7382	0.7230 0.7753	0.7695	0.7770	0.7547	Ave		0.7373				7.3		30.0			
1,1,1-Trichloroethane	0.6728 0.7712	0.7585 0.8066	0.8030	0.8263	0.8278	Ave		0.7809				7.0		15.0			
Cyclohexane	0.4990 0.5477	0.5599 0.5628	0.5828	0.6004	0.5964	Ave		0.5641				6.2		15.0			
1,1-Dichloropropene	0.5118 0.5891	0.5999 0.6137	0.6201	0.6352	0.6377	Ave		0.6011				7.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.6302 0.7605	0.7472 0.8006	0.7813	0.8084	0.8211	Ave		0.7642				8.5		15.0			
Isobutyl alcohol	++++ 0.3211	0.4652 0.3347	0.4815	0.4062	0.3762	Lin1	5.4857	0.3298							0.9970		0.9900
Benzene	0.8955 1.0159	0.9919 1.0541	1.0299	1.0741	1.0629	Ave		1.0177				6.0		15.0			
1,2-Dichloroethane	++++ 0.3328	0.3169 0.3531	0.3559	0.3571	0.3512	Ave		0.3445				4.7		15.0			
n-Heptane	0.6821 0.6213	0.6825 0.6424	0.6498	0.6770	0.6986	Ave		0.6648				4.1		15.0			
Trichloroethene	0.4679 0.4816	0.4789 0.5124	0.5129	0.5163	0.5262	Ave		0.4995				4.5		15.0			
2-Pentanone	++++ 0.0934	0.1057 0.1044	0.0946	0.1015	0.0971	Ave		0.0994				5.2		15.0			
Methylcyclohexane	0.5619 0.5450	0.5995 0.5580	0.6084	0.6135	0.6077	Ave		0.5849				4.9		15.0			
1,2-Dichloropropane	0.3127 0.3545	0.3610 0.3709	0.3819	0.3827	0.3841	Ave		0.3640				7.0		30.0			
Dibromomethane	0.1658 0.2319	0.2329 0.2514	0.2485	0.2471	0.2484	Ave		0.2323				13.1		15.0			
1,4-Dioxane	++++ 0.0011	++++ 0.0012	0.0008	0.0010	0.0011	Lin2	-0.018	0.0012							0.9970		0.9900
Dichlorobromomethane	0.6206 0.6958	0.6758 0.7400	0.7152	0.7337	0.7315	Ave		0.7018				6.1		15.0			
cis-1,3-Dichloropropene	1.5191 1.9262	1.7788 2.0453	1.9609	2.0477	2.0889	Ave		1.9096				10.5		15.0			
4-Methyl-2-pentanone (MIBK)	0.1492 0.1517	0.1503 0.1628	0.1520	0.1503	0.1541	Ave		0.1529				3.0		15.0			
Toluene	1.0915 1.2164	1.1873 1.2555	1.2200	1.2742	1.3031	Ave		1.2211				5.7		30.0			
trans-1,3-Dichloropropene	0.3157 0.3980	0.3924 0.3997	0.4030	0.4197	0.4246	Ave		0.3933				9.2		15.0			
Ethyl methacrylate	0.8782 1.0287	0.8023 ++++	1.0306	1.1122	1.1105	Ave		0.9938				12.7		15.0			
1,1,2-Trichloroethane	0.2580 0.2314	0.2519 0.2513	0.2553	0.2527	0.2523	Ave		0.2504				3.5		15.0			
Tetrachloroethene	1.2086 1.6589	1.5762 1.7316	1.6922	1.7988	1.8323	Ave		1.6427				12.8		15.0			
1,3-Dichloropropane	1.0671 1.4247	1.3681 1.5026	1.5707	1.5515	1.5773	Ave		1.4374				12.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Methyl n-butyl ketone (MNBK)	++++ 0.3583	0.2827 0.3786	0.3840	0.3328	0.3553	Ave		0.3486				10.6		15.0			
Chlorodibromomethane	1.4440 1.8420	1.6621 1.9885	1.8938	1.9438	1.9456	Ave		1.8171				10.8		15.0			
1,2-Dibromoethane	0.8173 1.1722	1.0795 1.2682	1.1948	1.2030	1.2688	Ave		1.1434				13.8		15.0			
1-Chlorohexane	2.1117 2.1586	2.3152 2.2298	2.3656	2.3684	2.4342	Ave		2.2833				5.2		15.0			
Chlorobenzene	2.5264 3.2319	3.0880 3.3423	3.2770	3.4592	3.5183	Ave		3.2062			0.3000	10.4		15.0			
1,1,1,2-Tetrachloroethane	1.5306 1.7404	1.6905 1.8025	1.7955	1.8569	1.8990	Ave		1.7593				6.9		15.0			
Ethylbenzene	1.2535 1.5882	1.5717 1.6268	1.6119	1.7300	1.7291	Ave		1.5873				10.1		30.0			
m-Xylene & p-Xylene	1.6189 2.1422	1.9289 2.2138	2.2635	2.2374	2.3702	Ave		2.1107				12.1		15.0			
o-Xylene	1.3883 1.8779	1.8144 1.9206	1.9265	2.0615	2.0505	Ave		1.8628				12.2		15.0			
Styrene	2.0670 2.9621	2.6480 3.0875	2.8706	3.1176	3.2461	Ave		2.8570				13.9		15.0			
Bromoform	0.6339 1.0763	0.9589 1.1629	1.0919	1.1002	1.1512	Lin2	-0.152	1.1377			0.1000				0.9990		0.9900
Isopropylbenzene	3.1333 3.3962	3.5220 3.6412	3.5709	3.6667	3.7249	Ave		3.5222				5.7		15.0			
Cyclohexanone	++++ 0.0143	0.0138 0.0145	0.0149	0.0137	0.0142	Ave		0.0142				3.1		15.0			
1,1,2,2-Tetrachloroethane	0.5732 0.6327	0.6372 0.6937	0.7253	0.6759	0.6939	Ave		0.6617			0.3000	7.7		15.0			
Bromobenzene	0.6607 0.8775	0.8407 0.9641	0.8885	0.9032	0.9388	Ave		0.8676				11.5		15.0			
1,2,3-Trichloropropane	++++ 0.1588	0.1495 0.1760	0.1825	0.1647	0.1752	Ave		0.1678				7.4		15.0			
trans-1,4-Dichloro-2-butene	++++ 0.1327	0.1180 0.1487	0.1508	0.1476	0.1485	Ave		0.1411				9.3		15.0			
N-Propylbenzene	0.7506 0.7985	0.8240 0.8665	0.8631	0.8563	0.9148	Ave		0.8391				6.4		15.0			
2-Chlorotoluene	++++ 0.6740	0.6689 ++++	0.6813	0.3828	0.7126	Lin	-0.326	0.6859							0.9930		0.9900
1,3,5-Trimethylbenzene	2.5155 2.6233	2.8211 2.8086	2.7728	2.9593	2.8747	Ave		2.7679				5.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
4-Chlorotoluene	0.6952 0.8111	0.8826 0.8679	0.8495	0.8629	0.9212	Ave		0.8415				8.6		15.0			
tert-Butylbenzene	2.7186 2.8147	2.9401 2.9858	3.0155	3.1152	3.1580	Ave		2.9640				5.3		15.0			
1,2,4-Trimethylbenzene	2.2815 2.4657	2.4878 2.6265	2.5557	2.6462	2.7072	Ave		2.5386				5.6		15.0			
sec-Butylbenzene	0.6733 0.7344	0.7625 0.7774	0.7898	0.7801	0.8193	Ave		0.7624				6.2		15.0			
1,3-Dichlorobenzene	0.9580 1.2456	1.2471 1.3546	1.1535	1.3373	1.2624	Ave		1.2226				11.0		15.0			
4-Isopropyltoluene	2.9650 3.1413	3.3676 3.2953	3.3272	3.4991	3.5935	Ave		3.3127				6.4		15.0			
1,4-Dichlorobenzene	1.8468 1.8666	2.0045 2.0247	2.1059	2.0284	2.1982	Ave		2.0107				6.2		15.0			
n-Butylbenzene	2.7195 3.0579	3.2337 3.1941	3.1558	3.3361	3.4450	Ave		3.1631				7.3		15.0			
1,2-Dichlorobenzene	1.1032 1.2950	1.3130 1.4084	1.3292	1.3366	1.3871	Ave		1.3103				7.6		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.1218	0.0899 0.1397	0.1119	0.1203	0.1277	Ave		0.1186				14.2		15.0			
1,2,4-Trichlorobenzene	0.5011 0.8777	0.7455 0.9617	0.8595	0.9452	0.9707	Lin2	-0.136	0.9378							0.9970		0.9900
Hexachlorobutadiene	0.7667 0.9539	1.0065 1.0112	1.0133	1.1036	1.1244	Ave		0.9971				11.8		15.0			
Naphthalene	++++ 0.8449	0.6033 0.9564	0.7675	0.8221	0.8834	Ave		0.8129				14.8		15.0			
1,2,3-Trichlorobenzene	0.3492 0.6690	0.5842 0.7399	0.6792	0.6849	0.7406	Lin2	-0.112	0.7182							0.9980		0.9900
Dibromofluoromethane (Surr)	++++ 0.5895	0.5740 0.6336	0.6043	0.6117	0.6187	Ave		0.6053				3.5		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.2995	0.2940 0.3229	0.3108	0.3123	0.3161	Ave		0.3092				3.5		15.0			
Toluene-d8 (Surr)	++++ 4.1373	3.9383 4.3017	4.2323	4.3655	4.5244	Ave		4.2499				4.7		15.0			
4-Bromofluorobenzene (Surr)	++++ 1.2059	1.2870 1.3431	1.3143	1.2666	1.3381	Ave		1.2925				4.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-419443/10	H7636.D
Level 2	STD01 280-419443/11	H7637.D
Level 3	STD02 280-419443/12	H7638.D
Level 4	STD05 280-419443/13	H7639.D
Level 5	ICIS 280-419443/14	H7640.D
Level 6	STD30 280-419443/15	H7641.D
Level 7	STD60 280-419443/16	H7642.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Lin1	6904 1088289	25320 2108488	54770	141100	351773	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	++++ 589817	15972 1124680	33787	73913	172988	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	++++ 506453	13967 996138	28672	62952	158700	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	4852 502885	16894 924531	33465	72248	171907	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	++++ 301576	9882 499404	19312	43033	101453	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	11584 1297061	40908 2513114	84172	177119	422854	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	12356 1506575	45052 2887707	92182	203966	496442	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	2143 221845	7257 479106	15774	30560	77071	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	++++ 163555	6087 400357	13310	22977	60902	++++ 300	10.00 600	20.0	50.0	100.0
1,1-Dichloroethene	FB	Ave	4265 525253	17794 1093388	35095	76278	188576	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Freon 113	FB	Ave	6581 812551	26032 1701750	54802	125520	290426	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acetone	FB	Ave	++++ 133782	++++ 277723	10367	18364	45268	++++ 120	++++ 240	8.00	20.0	40.0
Iodomethane	FB	Ave	11781 1415830	44706 3054191	92338	217710	498416	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon disulfide	FB	Ave	16523 1836570	59655 3834058	122719	277784	654782	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Allyl chloride	FB	Lin2	10587 708346	24667 1510489	48276	111852	257230	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Methyl acetate	FB	Ave	++++ 213144	6671 498024	17028	32583	79399	++++ 60.0	2.00 120	4.00	10.0	20.0
Methylene Chloride	FB	Lin2	6618 449017	17114 965538	33282	70807	162522	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	TBAd 9	Ave	++++ 144739	5353 336547	11442	23360	52597	++++ 300	10.0 600	20.0	50.0	100
Acrylonitrile	FB	Lin2	2012 347116	10686 774476	24444	52864	119747	3.00 300	10.0 600	20.0	50.0	100
trans-1,2-Dichloroethene	FB	Ave	4834 605342	20076 1286375	41634	101896	219284	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Ave	8471 896178	29109 2009049	64435	145833	316203	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	8801 845130	29661 1795759	60116	148102	307590	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethane	FB	Ave	10149 1100514	36320 2320875	77641	194914	387167	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	++++ 970345	30435 2197598	63721	159078	341927	++++ 60.0	2.00 120	4.00	10.0	20.0
cis-1,2-Dichloroethene	FB	Ave	5413 623486	20476 1348576	43508	108285	223457	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2,2-Dichloropropane	FB	Lin1	43740 1165658	71259 ++++	115587	236368	430293	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	++++ 266170	8958 565384	18769	43424	86170	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 380438	11843 887569	28236	65047	130662	++++ 900	30.0 1800	60.0	150	300
Chlorobromomethane	FB	Lin2	1985 309154	9776 673713	21053	53342	108246	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 86527	++++ 198662	7426	17299	32054	++++ 60.0	++++ 120	4.00	10.0	20.0
Chloroform	FB	Ave	11010 1286850	42258 2713383	89887	224861	442027	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	11883 1344361	44332 2822940	93797	239138	484853	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	8814 954794	32721 1969628	68075	173763	349325	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	9039 1026987	35063 2148034	72435	183825	373499	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	11130 1325710	43669 2801910	91267	233946	480930	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isobutyl alcohol	TBAd 9	Lin1	++++ 124320	5841 285435	13031	21540	45546	++++ 750	25.0 1500	50.0	125	250



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Benzene	FB	Ave	15816 1771041	57969 3689176	120302	310832	622532	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane	FB	Ave	++++ 580110	18524 1235818	41579	103341	205673	++++ 30.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Ave	12048 1083040	39890 2248247	75904	195927	409162	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	8264 839525	27992 1793520	59912	149410	308167	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	++++ 651560	24706 1461083	44182	117454	227505	++++ 120	4.00 240	8.00	20.0	40.0
Methylcyclohexane	FB	Ave	9925 950126	35037 1952928	71074	177541	355906	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	5522 617929	21097 1298190	44612	110755	224988	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dibromomethane	FB	Ave	2928 404289	13614 880052	29025	71504	145477	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	++++ 38614	++++ 86522	1763	5538	12579	++++ 600	++++ 1200	40.0	100	200
Dichlorobromomethane	FB	Ave	10961 1213012	39500 2590137	83549	212314	428452	0.300 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	7686 895368	27965 1947448	61201	157161	321657	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	10544 1058104	35135 2279634	71018	173958	360934	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	19277 2120550	69394 4394229	142508	368735	763201	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	5575 693892	22936 1398793	47077	121444	248674	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	4443 478189	12614 ++++	32166	85360	171003	0.300 30.0	1.00 ++++	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	4557 403343	14721 879538	29820	73132	147774	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	6115 771117	24781 1648793	52816	138060	282146	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	5399 662245	21509 1430767	49023	119076	242877	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	++++ 666205	17775 1441804	47945	102161	218819	++++ 120	4.00 240	8.00	20.0	40.0
Chlorodibromomethane	CBNZ d5	Ave	7306 856227	26131 1893394	59107	149183	299587	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	4135 544869	16971 1207515	37291	92328	195375	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1-Chlorohexane	CBNZ d5	Ave	10684 1003389	36398 2123162	73834	181772	374817	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	12782 1502302	48549 3182485	102278	265490	541760	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	7744 808988	26578 1716279	56039	142514	292416	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	6342 738261	24709 1549043	50308	132778	266245	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	8191 995736	30326 2107949	70647	171718	364974	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	7024 872923	28526 1828754	60127	158222	315736	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	10458 1376856	41631 2939814	89594	239272	499840	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin2	3207 500274	15075 1107319	34078	84441	177257	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	25116 2838911	94699 5950028	197808	512121	1046740	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	++++ 265239	8673 550752	18637	42110	87205	++++ 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	4595 528861	17133 1133593	40176	94397	195003	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	5296 733467	22606 1575402	49218	126145	263801	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	++++ 132763	4019 287526	10108	23004	49231	++++ 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	++++ 110957	3173 243041	8355	20618	41725	++++ 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	6017 667442	22157 1415927	47810	119598	257081	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Lin	++++ 563374	17985 ++++	37740	53466	200237	++++ 30.0	1.00 ++++	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	20164 2192820	75853 4589448	153597	413318	807833	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	5573 678012	23731 1418145	47060	120523	258856	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	21792 2352778	79055 4879111	167043	435096	887429	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	18288 2061065	66892 4291978	141570	369588	760743	0.300 30.0	1.00 60.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	5397 613864	20502 1270369	43753	108960	230218	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419443

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_H GC Column: DB-624 (75. ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 09:50 Calibration End Date: 06/21/2018 11:58 Calibration ID: 32767

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,3-Dichlorobenzene	DCBd 4	Ave	7679 1041211	33533 2213470	63899	186780	354749	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	23767 2625832	90549 5384878	184307	488708	1009810	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	14804 1560332	53896 3308555	116657	283302	617718	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	21799 2556076	86949 5219414	174812	465940	968081	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	8843 1082491	35304 2301437	73628	186684	389784	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	++++ 101812	2416 228343	6199	16808	35890	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Lin2	4017 733692	20045 1571463	47610	132008	272763	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	6146 797378	27062 1652333	56129	154144	315973	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	++++ 706293	16222 1562844	42516	114819	248245	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Lin2	2799 559224	15709 1209075	37622	95660	208124	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 1027723	33548 2217467	70596	177028	362337	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 522053	17180 1130050	36302	90368	185142	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 1923154	61916 4095936	132094	335054	696674	++++ 30.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 1008044	34606 2194663	72803	176906	376020	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin = Linear ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-408278/18	MS9_7349.D
Level 2	STD 280-408278/19	MS9_7350.D
Level 3	STD 280-408278/20	MS9_7351.D
Level 4	ICIS 280-408278/21	MS9_7352.D
Level 5	STD 280-408278/22	MS9_7353.D
Level 6	STD 280-408278/23	MS9_7354.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0057 0.0047	0.0067	0.0060	0.0058	0.0055	Ave		0.0057				11.4		15.0			
Ethanol	++++ 0.1112	0.1771	0.1275	0.1205	0.1261	Lin2	7.4739	0.1113							0.9930		0.9900
Propene oxide	0.0185 0.0159	0.0201	0.0193	0.0186	0.0179	Ave		0.0184				7.7		15.0			
2-Propanol	1.4064 0.7528	1.1829	0.8864	0.7550	0.8041	Lin2	6.9153	0.7514							0.9930		0.9900
Acetonitrile	++++ 0.0095	0.0093	0.0092	0.0104	0.0102	Ave		0.0097				5.5		15.0			
Di-isopropyl ether (DIPE)	0.1988 0.1893	0.2040	0.2085	0.1972	0.2007	Ave		0.1998				3.3		15.0			
Chloroprene	0.5461 0.5697	0.6134	0.5904	0.5968	0.6060	Ave		0.5871				4.3		15.0			
Tert-butyl ethyl ether	0.6354 0.6588	0.7028	0.6721	0.6703	0.6904	Ave		0.6716				3.5		15.0			
Ethyl acetate	0.0775 0.0719	0.0744	0.0760	0.0721	0.0730	Ave		0.0742				3.1		15.0			
Propionitrile	0.0103 0.0105	0.0113	0.0112	0.0110	0.0111	Ave		0.0109				3.7		15.0			
Methacrylonitrile	0.0565 0.0581	0.0609	0.0612	0.0602	0.0614	Ave		0.0597				3.3		15.0			
Tert-amyl methyl ether	0.5254 0.5206	0.5542	0.5371	0.5264	0.5419	Ave		0.5343				2.4		15.0			
n-Butanol	0.2038 0.3454	0.2643	0.2983	0.3158	0.3453	Lin2	-3.496	0.3386							0.9990		0.9900
Methyl methacrylate	0.0262 0.0267	0.0273	0.0276	0.0269	0.0266	Ave		0.0269				2.0		15.0			
2-Nitropropane	0.0297 0.0195	0.0255	0.0190	0.0207	0.0189	Lin2	0.0224	0.0188							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrahydrothiophene	0.0748 0.0969	0.0727	0.0789	0.0837	0.0896	Ave		0.0828				11.2		15.0			
cis-1,4-Dichloro-2-butene	0.0966 0.1140	0.1122	0.1182	0.1202	0.1205	Ave		0.1136				7.9		15.0			
1,2,3-Trimethylbenzene	3.3655 2.9758	3.5540	3.5107	3.3015	3.2041	Ave		3.3186				6.4		15.0			
1,3,5-Trichlorobenzene	1.4265 1.2184	1.4857	1.4775	1.3639	1.3503	Ave		1.3870				7.2		15.0			
Dibromofluoromethane (Surr)	0.3483 0.2888	0.3086	0.3104	0.3026	0.3010	Ave		0.3100				6.5		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2894 0.2530	0.2474	0.2687	0.2562	0.2668	Ave		0.2636				5.7		15.0			
Toluene-d8 (Surr)	++++ 4.5587	4.9918	5.3659	4.8618	4.7713	Ave		4.9099				6.1		15.0			
4-Bromofluorobenzene (Surr)	++++ 0.9750	1.1492	1.2054	1.0851	1.0459	Ave		1.0921				8.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-408278/18	MS9_7349.D
Level 2	STD 280-408278/19	MS9_7350.D
Level 3	STD 280-408278/20	MS9_7351.D
Level 4	ICIS 280-408278/21	MS9_7352.D
Level 5	STD 280-408278/22	MS9_7353.D
Level 6	STD 280-408278/23	MS9_7354.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Ave	34656 1434688	76527	167061	303800	809955	100 6000	200	500	1000	3000
Ethanol	TBAd 9	Lin2	++++ 129178	7755	13580	24753	70618	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	112250 4836318	228615	541531	975574	2654954	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Lin2	5077 145696	8633	15730	25840	75065	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	++++ 287907	10552	25948	54530	151942	++++ 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	12074 574391	23191	58545	103617	298147	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	33161 1728515	69716	165766	313665	900325	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	38580 1998679	79877	188695	352279	1025786	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	9412 436004	16916	42696	75776	216923	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	6257 317630	12807	31351	57966	165553	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	34317 1763665	69195	171934	316576	912944	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	31903 1579469	62986	150798	276640	805203	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Lin2	1839 167128	4823	13232	27024	80591	25.0 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	3177 162082	6215	15516	28282	79017	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Lin2	3607 118466	5787	10651	21733	56147	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	2336 148757	4223	11125	22205	67371	2.00 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	4471 271854	9794	25027	48208	140365	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	77848 3549717	155063	371705	661921	1865865	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	32997 1453352	64821	156434	273437	786320	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	21149 876054	35080	87161	159032	447222	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	17570 767506	28116	75451	134656	396375	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 3497787	144959	378319	644682	1792849	++++ 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 1163049	50139	127622	217556	609039	++++ 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-416844/16	MS9_0694.D
Level 2	STD1 280-416844/15	MS9_0693.D
Level 3	STD2 280-416844/14	MS9_0692.D
Level 4	STD5 280-416844/13	MS9_0691.D
Level 5	ICIS 280-416844/12	MS9_0690.D
Level 6	STD30 280-416844/11	MS9_0689.D
Level 7	STD60 280-416844/10	MS9_0688.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4533 0.4391	0.4153 0.4039	0.3817	0.4148	0.4342	Ave		0.4203				5.7		15.0			
Chloromethane	0.4722 0.3685	0.4180 0.3338	0.3908	0.3891	0.3932	Ave		0.3951			0.1000	10.8		15.0			
Vinyl chloride	0.4588 0.3855	0.4522 0.3489	0.4379	0.4175	0.4053	Ave		0.4152				9.4		30.0			
Bromomethane	0.3576 0.2795	0.3106 0.2517	0.3009	0.2883	0.2912	Ave		0.2971				10.9		15.0			
Chloroethane	0.2877 0.2295	0.2590 0.2053	0.2583	0.2455	0.2390	Ave		0.2463				10.5		15.0			
Dichlorofluoromethane	0.6537 0.5605	0.6688 0.5064	0.6252	0.5959	0.5813	Ave		0.5988				9.4		15.0			
Trichlorofluoromethane	0.6947 0.5262	0.6169 0.4864	0.6027	0.5688	0.5630	Ave		0.5798				11.6		15.0			
Ethyl ether	++++ 0.1281	0.1477 0.1152	0.1395	0.1324	0.1361	Ave		0.1332				8.3		15.0			
Acrolein	++++ 0.0118	0.0143 0.0104	0.0127	0.0121	0.0118	Ave		0.0122				10.5		15.0			
Freon 113	0.3192 0.2711	0.3136 0.2528	0.3136	0.3002	0.2890	Ave		0.2942				8.4		15.0			
1,1-Dichloroethene	0.3793 0.2852	0.3373 0.2641	0.3368	0.3129	0.3024	Ave		0.3169				12.0		30.0			
Acetone	0.1786 0.0246	0.0674 0.0213	0.0426	0.0295	0.0273	Lin2	0.1885	0.0210							0.9940		0.9900
Iodomethane	++++ 0.4832	0.5781 0.4530	0.5379	0.5271	0.5161	Ave		0.5159				8.4		15.0			
Methyl acetate	++++ 0.0628	0.0738 0.0577	0.0637	0.0641	0.0648	Ave		0.0645				8.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.6298 0.4998	0.5997 0.4513	0.5550	0.5478	0.5256	Ave		0.5441				11.0		15.0			
Carbon disulfide	1.3538 1.1208	1.2836 1.0307	1.2134	1.2015	1.1788	Ave		1.1975				8.8		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	0.0107 0.0094	0.0107 0.0084	0.0096	0.0094	0.0095	Ave		0.0097				8.3		15.0			
Methylene Chloride	++++ 0.2455	0.3292 0.2233	0.2912	0.2690	0.2616	Ave		0.2700				13.7		15.0			
Methyl tert-butyl ether	0.4958 0.4103	0.4851 0.3733	0.4411	0.4216	0.4249	Lin2	0.0286	0.4148						0.9950		0.9900	
trans-1,2-Dichloroethene	0.4036 0.2997	0.3571 0.2795	0.3445	0.3295	0.3189	Ave		0.3332				12.2		15.0			
Acrylonitrile	0.0360 0.0292	0.0341 0.0263	0.0314	0.0309	0.0301	Ave		0.0311				10.2		15.0			
Hexane	2.5437 2.0011	2.2044 1.8442	2.0286	2.0466	2.0515	Ave		2.1029				10.5		15.0			
Vinyl acetate	0.2570 0.2299	0.2458 0.2102	0.2364	0.2320	0.2222	Ave		0.2334				6.5		15.0			
1,1-Dichloroethane	0.6483 0.4892	0.5846 0.4476	0.5480	0.5289	0.5139	Ave		0.5372		0.1000		12.2		15.0			
Methyl ethyl ketone (MEK)	++++ 0.0435	0.0568 0.0392	0.0488	0.0447	0.0450	Ave		0.0463				12.9		15.0			
sec-Butyl Alcohol	++++ 0.8477	0.9429 0.7767	0.9460	0.9692	0.8810	Ave		0.8939				8.2		15.0			
2,2-Dichloropropane	0.6129 0.4860	0.5878 0.4524	0.5370	0.5399	0.4990	Ave		0.5307				10.7		15.0			
cis-1,2-Dichloroethene	0.3648 0.2953	0.3610 0.2749	0.3335	0.3229	0.3121	Ave		0.3235				10.2		15.0			
Tetrahydrofuran	++++ 0.0271	0.0284 0.0244	0.0263	0.0264	0.0271	Ave		0.0266				5.0		15.0			
Chloroform	0.5538 0.4487	0.5498 0.4171	0.4992	0.4829	0.4724	Ave		0.4891				10.3		30.0			
Chlorobromomethane	0.1147 0.1090	0.1273 0.1029	0.1232	0.1168	0.1155	Ave		0.1156				7.1		15.0			
1,1,1-Trichloroethane	0.6229 0.4871	0.5642 0.4533	0.5414	0.5315	0.5123	Ave		0.5304				10.3		15.0			
Isobutyl alcohol	++++ 0.8174	1.0082 0.7530	0.8733	0.9866	0.9003	Ave		0.8898				11.0		15.0			
Cyclohexane	++++ 0.5696	0.6500 0.5221	0.6351	0.6202	0.5955	Ave		0.5988				7.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.5032 0.4199	0.4954 0.3901	0.4663	0.4569	0.4396	Ave		0.4531				8.9		15.0			
Carbon tetrachloride	0.5645 0.4508	0.5226 0.4260	0.5046	0.4903	0.4699	Ave		0.4898				9.5		15.0			
n-Heptane	0.6593 0.5311	0.6006 0.4746	0.5812	0.5673	0.5481	Ave		0.5660				10.2		15.0			
Benzene	1.2562 0.9936	1.1885 0.9239	1.1267	1.0696	1.0498	Ave		1.0869				10.5		15.0			
1,2-Dichloroethane	0.3029 0.2385	0.2867 0.2199	0.2655	0.2557	0.2484	Ave		0.2597				10.9		15.0			
Trichloroethene	0.3888 0.3116	0.3709 0.2897	0.3499	0.3351	0.3227	Ave		0.3384				10.1		15.0			
2-Pentanone	0.0612 0.0593	0.0674 0.0528	0.0640	0.0623	0.0594	Ave		0.0609				7.5		15.0			
Methylcyclohexane	++++ 0.4805	0.5307 0.4376	0.5229	0.5177	0.4921	Ave		0.4969				7.0		15.0			
1,2-Dichloropropane	0.3061 0.2372	0.2873 0.2180	0.2684	0.2555	0.2451	Ave		0.2597				11.6		30.0			
1,4-Dioxane	++++ 0.0011	0.0011 0.0010	0.0011	0.0011	0.0011	Ave		0.0011				4.4		15.0			
Dibromomethane	0.1229 0.1029	0.1229 0.0941	0.1096	0.1092	0.1050	Ave		0.1095				9.6		15.0			
Dichlorobromomethane	0.3752 0.2968	0.3381 0.2757	0.3236	0.3132	0.3104	Ave		0.3190				9.9		15.0			
2-Chloroethyl vinyl ether	0.0799 0.0740	0.0771 0.0668	0.0759	0.0766	0.0729	Ave		0.0747				5.6		15.0			
cis-1,3-Dichloropropene	1.5235 1.3565	1.5616 1.2482	1.4588	1.4089	1.3757	Ave		1.4190				7.5		15.0			
4-Methyl-2-pentanone (MIBK)	0.0965 0.0840	0.0955 0.0740	0.0906	0.0873	0.0858	Ave		0.0877				8.7		15.0			
Toluene	1.3598 1.0522	1.2689 0.9663	1.2247	1.1796	1.0997	Ave		1.1644				11.6		30.0			
Ethyl methacrylate	0.7910 0.6518	0.7476 0.5921	0.7065	0.6630	0.6519	Ave		0.6863				9.8		15.0			
trans-1,3-Dichloropropene	0.3061 0.2632	0.3007 0.2365	0.2816	0.2754	0.2659	Ave		0.2756				8.6		15.0			
1,1,2-Trichloroethane	0.1819 0.1339	0.1605 0.1197	0.1511	0.1447	0.1413	Ave		0.1476				13.5		15.0			
Methyl n-butyl ketone (MNBK)	++++ 0.2381	0.2455 0.2043	0.2345	0.2441	0.2419	Ave		0.2347				6.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	1.3353 1.1365	1.3447 1.0846	1.2748	1.2185	1.1678	Ave		1.2232				8.2		15.0			
1,3-Dichloropropane	1.1512 0.9255	1.0873 0.8331	1.0252	0.9565	0.9343	Ave		0.9876				10.9		15.0			
Chlorodibromomethane	0.8159 0.7743	0.8593 0.7218	0.7979	0.7641	0.7794	Ave		0.7875				5.5		15.0			
1,2-Dibromoethane	0.6019 0.5415	0.6288 0.4899	0.6084	0.5546	0.5524	Ave		0.5682				8.4		15.0			
1-Chlorohexane	2.3948 1.7731	2.0852 1.6181	1.9860	1.9043	1.7943	Ave		1.9365				13.1		15.0			
Chlorobenzene	3.4539 2.7359	3.3507 2.5466	3.1455	2.9574	2.8265	Ave		3.0024			0.3000	11.0		15.0			
Ethylbenzene	2.1190 1.7902	2.1362 1.6719	2.0412	1.9479	1.8250	Ave		1.9330				9.2		30.0			
1,1,1,2-Tetrachloroethane	1.2029 1.0064	1.1113 0.9651	1.0875	1.0410	1.0364	Ave		1.0644				7.3		15.0			
m-Xylene & p-Xylene	5.1509 3.9606	4.7491 3.6991	4.5917	4.2740	4.0599	Ave		4.3550				11.6		15.0			
o-Xylene	2.4624 1.9516	2.3003 1.8326	2.2155	2.1049	1.9977	Ave		2.1236				10.3		15.0			
Styrene	3.5499 2.9862	3.4834 2.7478	3.2914	3.1915	3.0608	Ave		3.1873				8.9		15.0			
Bromoform	0.4378 0.4371	0.4543 0.4098	0.4351	0.4260	0.4366	Ave		0.4338			0.1000	3.1		15.0			
Isopropylbenzene	4.1211 3.3519	4.0051 3.2077	3.8127	3.6537	3.4426	Ave		3.6564				9.4		15.0			
Cyclohexanone	++++ 0.0124	0.0151 0.0111	0.0128	0.0127	0.0127	Ave		0.0128				10.1		15.0			
1,1,2,2-Tetrachloroethane	0.4507 0.3657	0.4337 0.3351	0.3946	0.3743	0.3695	Ave		0.3891			0.3000	10.4		15.0			
trans-1,4-Dichloro-2-butene	0.1709 0.1347	0.1583 0.1227	0.1422	0.1404	0.1362	Ave		0.1436				11.2		15.0			
N-Propylbenzene	1.2529 1.0465	1.2444 0.9989	1.2131	1.1681	1.0715	Ave		1.1422				9.0		15.0			
1,2,3-Trichloropropane	++++ 0.1112	0.1241 0.1015	0.1112	0.1137	0.1120	Ave		0.1123				6.4		15.0			
Bromobenzene	0.9738 0.7659	0.9236 0.7205	0.8677	0.8184	0.8004	Ave		0.8386				10.6		15.0			
1,3,5-Trimethylbenzene	3.2931 2.7651	3.2740 2.6468	3.1333	3.0402	2.8218	Ave		2.9963				8.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	1.1074 0.8537	1.0784 0.8148	0.9854	0.9232	0.8750	Ave		0.9483				11.9		15.0			
4-Chlorotoluene	1.0500 0.8567	1.0322 0.8083	0.9670	0.9361	0.8931	Ave		0.9348				9.5		15.0			
tert-Butylbenzene	3.0200 2.5060	3.0332 2.4437	2.8614	2.7090	2.5737	Ave		2.7353				8.8		15.0			
1,2,4-Trimethylbenzene	3.4830 2.7669	3.2290 2.6352	3.1267	3.0429	2.8319	Ave		3.0165				9.7		15.0			
sec-Butylbenzene	1.0547 0.8497	1.0337 0.8322	0.9778	0.9494	0.8744	Ave		0.9388				9.5		15.0			
4-Isopropyltoluene	4.0957 3.2463	3.8641 3.1088	3.7547	3.6278	3.3153	Ave		3.5732				10.1		15.0			
1,3-Dichlorobenzene	1.8910 1.5214	1.8078 1.4325	1.7679	1.6672	1.5754	Ave		1.6662				9.9		15.0			
1,4-Dichlorobenzene	1.8621 1.4865	1.8068 1.3904	1.7157	1.6030	1.5170	Ave		1.6259				10.8		15.0			
n-Butylbenzene	4.0034 3.1630	3.7644 2.9449	3.6289	3.5085	3.1901	Ave		3.4576				10.9		15.0			
1,2-Dichlorobenzene	1.5652 1.2559	1.5037 1.1782	1.4697	1.3321	1.2963	Ave		1.3716				10.4		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0784	0.0918 0.0753	0.0852	0.0772	0.0792	Ave		0.0812				7.6		15.0			
1,2,4-Trichlorobenzene	1.2606 0.9872	1.1622 0.9481	1.1222	1.0543	1.0132	Ave		1.0783				10.2		15.0			
Hexachlorobutadiene	1.0277 0.8127	1.0090 0.8088	0.9650	0.8986	0.8412	Ave		0.9090				10.2		15.0			
Naphthalene	1.4393 1.2084	1.4003 1.1306	1.3129	1.2300	1.2472	Ave		1.2812				8.5		15.0			
1,2,3-Trichlorobenzene	0.9988 0.7879	0.9401 0.7510	0.8883	0.8267	0.8098	Ave		0.8575				10.3		15.0			
Dibromofluoromethane (Surr)	++++ 0.2338	0.3517 0.2208	0.2885	0.2587	0.2533	Lin2	0.1219	0.2302							0.9980		0.9900
1,2-Dichloroethane-d4 (Surr)	++++ 0.1953	0.3213 0.1786	0.2363	0.2145	0.2016	Lin2	0.1320	0.1839							0.9970		0.9900
Toluene-d8 (Surr)	++++ 3.5160	5.4000 3.3109	4.5202	3.9671	3.7016	Lin2	2.0081	3.4501							0.9990		0.9900
4-Bromofluorobenzene (Surr)	++++ 0.8351	1.4055 0.7755	1.1202	0.9640	0.8859	Lin2	0.6046	0.8113							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-416844/16	MS9_0694.D
Level 2	STD1 280-416844/15	MS9_0693.D
Level 3	STD2 280-416844/14	MS9_0692.D
Level 4	STD5 280-416844/13	MS9_0691.D
Level 5	ICIS 280-416844/12	MS9_0690.D
Level 6	STD30 280-416844/11	MS9_0689.D
Level 7	STD60 280-416844/10	MS9_0688.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	11257 1037310	33864 1982158	65985	174314	373695	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	11725 870518	34086 1638323	67554	163521	338411	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	11393 910785	36879 1712092	75698	175444	348800	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	8881 660339	25328 1235415	52009	121143	250561	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	7144 542134	21121 1007353	44654	103150	205692	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	16233 1324114	54541 2484996	108079	250409	500230	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	17250 1243211	50307 2387063	104189	239039	484547	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	+++++ 302713	12043 565330	24116	55619	117102	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	+++++ 278546	11631 509872	21986	50676	101626	+++++ 300	10.00 600	20.0	50.0	100.0
Freon 113	FB	Ave	7927 640481	25575 1240656	54215	126167	248683	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	9418 673697	27507 1296267	58224	131475	260270	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acetone	FB	Lin2	17738 232252	21997 417671	29423	49654	93864	1.20 120	4.00 240	8.00	20.0	40.0
Iodomethane	FB	Ave	+++++ 1141651	47143 2223193	92984	221495	444132	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	+++++ 296564	12036 566494	22023	53874	111590	+++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	15640 1180825	48902 2214630	95941	230202	452319	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	33619 2647913	104676 5058275	209751	504920	1014412	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Ave	2662 221754	8721 414371	16525	39510	82081	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	++++ 580000	26843 1095629	50333	113031	225160	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Lin2	12311 969288	39556 1832085	76245	177153	365636	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	10022 708071	29123 1371409	59548	138463	274414	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	8933 689562	27838 1292564	54213	130043	259047	3.00 300	10.0 600	20.0	50.0	100
Hexane	CBNZ d5	Ave	15741 1154251	45136 2181221	88408	216310	438379	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	12762 1086358	40085 2063356	81737	194948	382423	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	16099 1155804	47672 2196424	94729	222281	442208	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	++++ 411422	18520 769040	33747	75098	154943	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 486894	16694 906766	35847	86463	173808	++++ 900	30.0 1800	60.0	150	300
2,2-Dichloropropane	FB	Ave	15219 1148117	47930 2219950	92825	226871	429428	0.300 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,2-Dichloroethene	FB	Ave	9058 697625	29442 1349076	57643	135698	268551	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 127966	4625 239154	9091	22207	46632	++++ 60.0	2.00 120	4.00	10.0	20.0
Chloroform	FB	Ave	13752 1060120	44834 2046637	86298	202926	406569	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	2849 257539	10381 504997	21292	49085	99406	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	15468 1150815	46010 2224385	93577	223333	440901	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isobutyl alcohol	TBAd 9	Ave	++++ 391209	14875 732573	27578	73344	148018	++++ 750	25.0 1500	50.0	125	250
Cyclohexane	FB	Ave	++++ 1345810	53007 2562214	109787	260638	512493	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	12495 992132	40402 1914280	80601	192008	378321	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	14019 1064972	42614 2090626	87222	206054	404346	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Heptane	FB	Ave	16373 1254832	48976 2328826	100458	238383	471683	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	31194 2347317	96919 4533865	194766	449500	903471	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane	FB	Ave	7522 563501	23382 1079367	45898	107445	213767	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	9656 736270	30249 1421824	60481	140838	277742	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	6077 560147	21984 1036226	44233	104746	204465	1.20 120	4.00 240	8.00	20.0	40.0
Methylcyclohexane	FB	Ave	++++ 1135303	43273 2147485	90394	217546	423508	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	7601 560417	23428 1070001	46392	107359	210946	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Ave	++++ 54185	1773 99046	3725	9459	18514	++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	3052 243192	10025 461638	18952	45875	90329	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	9317 701301	27570 1352831	55932	131608	267110	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Ave	1984 174746	6290 327924	13126	32174	62747	0.300 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	9428 782436	31973 1476372	63574	148911	293986	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	9581 793907	31146 1452311	62632	146809	295482	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	33766 2485731	103473 4742151	211703	495705	946369	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	4895 375950	15308 700276	30789	70070	139297	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	7602 621873	24517 1160431	48679	115752	228807	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	4517 316382	13087 587170	26114	60801	121613	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	++++ 549308	20104 966390	40878	103209	206748	++++ 120	4.00 240	8.00	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	8263 655552	27533 1282867	55556	128781	249552	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	7124 533806	22262 985356	44679	101093	199647	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Ave	5049 446614	17595 853763	34772	80759	166562	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	3725 312361	12874 579481	26515	58617	118045	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	14820 1022701	42694 1913803	86552	201266	383417	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	21374 1578076	68606 3011968	137085	312570	603996	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	13113 1032555	43739 1977403	88956	205873	389988	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	7444 580466	22753 1141494	47393	110025	221476	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	31875 2284431	97238 4375106	200110	451714	867561	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	15238 1125663	47098 2167501	96554	222463	426890	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	21968 1722397	71323 3249989	143441	337314	654068	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Ave	2709 252117	9302 484678	18963	45025	93295	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	39470 2958788	123324 5682051	253997	587074	1119804	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	++++ 286843	12361 524876	22336	53878	108659	++++ 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	4317 322811	13354 593670	26290	60148	120192	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	1637 118902	4873 217354	9473	22567	44293	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	12000 923754	38316 1769444	80817	187696	348524	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	++++ 98118	3820 179759	7407	18274	36447	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	9327 676111	28439 1276244	57807	131503	260339	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	31540 2440852	100812 4688432	208738	488494	917879	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	10606 753580	33205 1443388	65644	148343	284604	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	10056 756203	31784 1431765	64420	150416	290489	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	28924 2212085	93397 4328701	190623	435276	837176	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	33359 2442416	99427 4667887	208301	488924	921155	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Ave	10101 750095	31830 1474188	65139	152544	284427	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	39227 2865609	118983 5506822	250136	582911	1078387	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	18111 1343020	55665 2537447	117779	267891	512430	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	17834 1312154	55635 2462936	114297	257566	493448	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	38343 2792074	115912 5216487	241755	563745	1037676	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14991 1108627	46300 2087054	97908	214036	421646	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	++++ 69185	2826 133417	5678	12407	25763	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	12073 871416	35786 1679506	74762	169407	329572	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	9843 717412	31069 1432616	64288	144386	273615	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	13785 1066701	43116 2002713	87462	197631	405671	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	9566 695514	28947 1330228	59180	132832	263409	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Lin2	++++ 552299	28683 1083714	49866	108701	218017	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin2	++++ 461300	26201 876389	40844	90130	173476	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Lin2	++++ 2028002	110566 3916025	196995	419285	790999	++++ 30.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Lin2	++++ 737206	43277 1373632	74626	154896	288175	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin2 = Linear 1/conc^2 ISTD



# Calibration

/ Dichlorodifluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

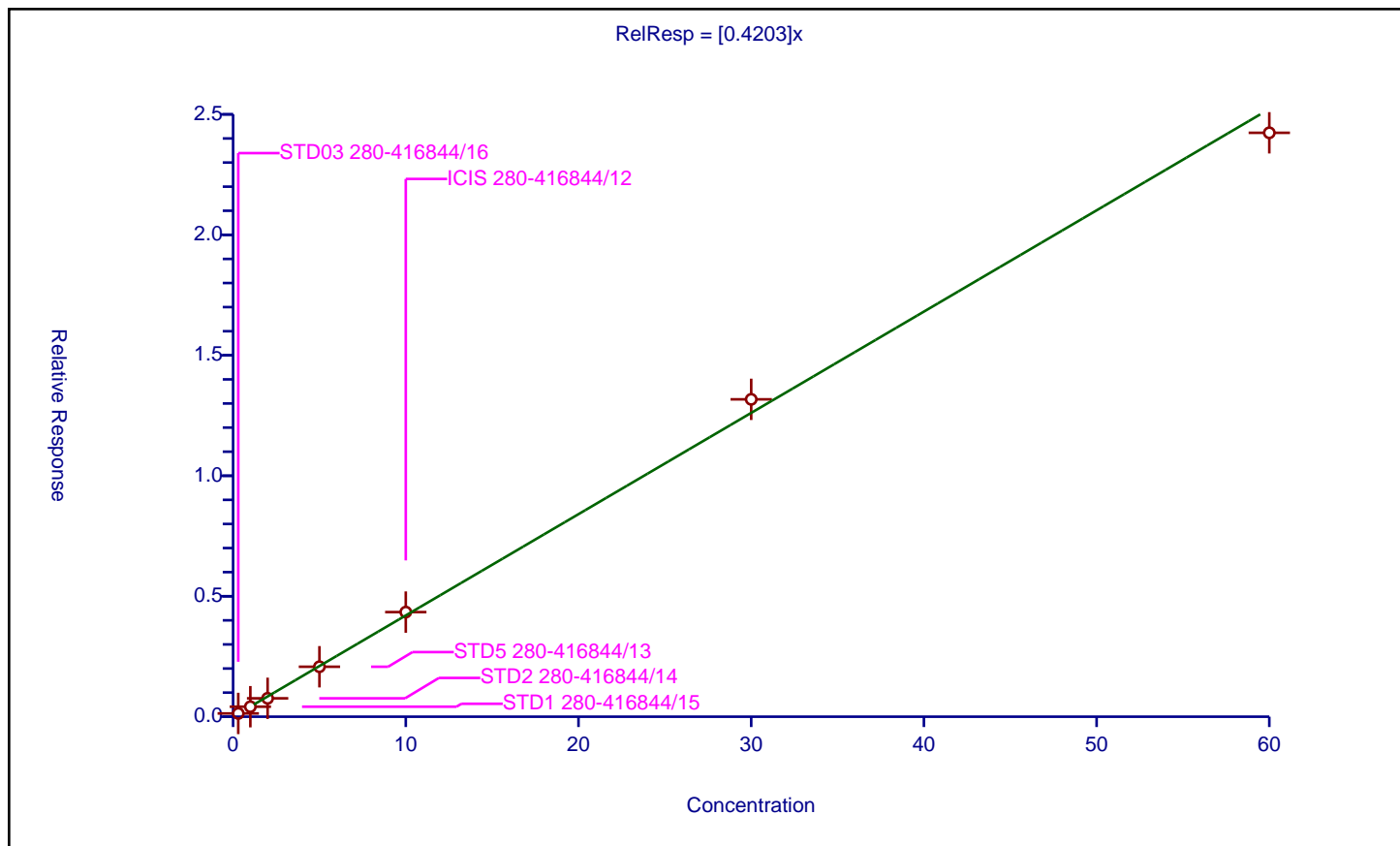
## Curve Coefficients

Intercept: 0  
 Slope: 0.4203

## Error Coefficients

Standard Error: 929000  
 Relative Standard Error: 5.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.135996	12.5	1034682.0	0.45332	Y
2	STD1 280-416844/15	1.0	0.415272	12.5	1019333.0	0.415272	Y
3	STD2 280-416844/14	2.0	0.763462	12.5	1080358.0	0.381731	Y
4	STD5 280-416844/13	5.0	2.074021	12.5	1050580.0	0.414804	Y
5	ICIS 280-416844/12	10.0	4.342382	12.5	1075720.0	0.434238	Y
6	STD30 280-416844/11	30.0	13.172057	12.5	984385.0	0.439069	Y
7	STD60 280-416844/10	60.0	24.234794	12.5	1022372.0	0.403913	Y





# Calibration

/ Chloromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

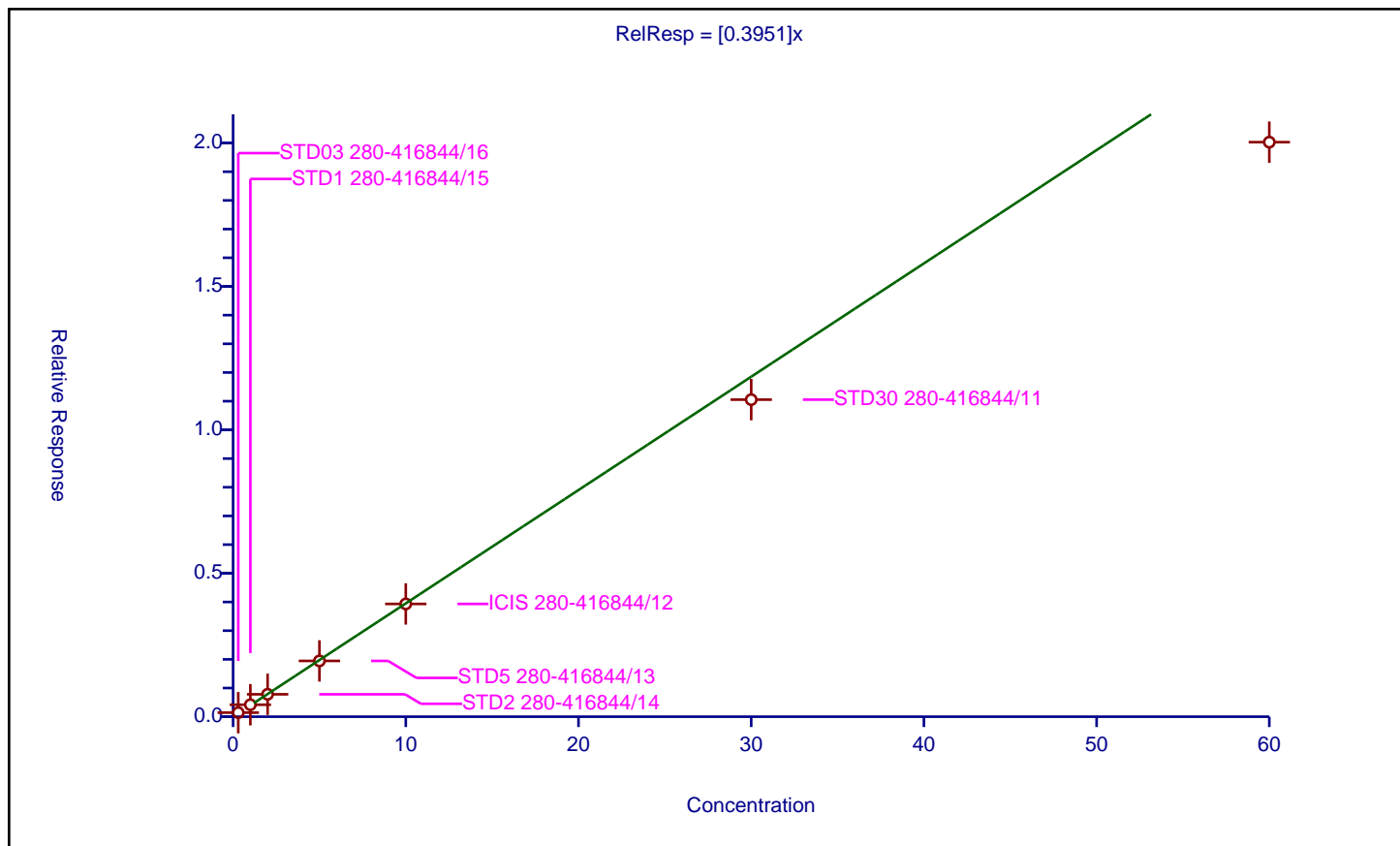
## Curve Coefficients

Intercept: 0  
 Slope: 0.3951

## Error Coefficients

Standard Error: 773000  
 Relative Standard Error: 10.8  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.14165	12.5	1034682.0	0.472166	Y
2	STD1 280-416844/15	1.0	0.417994	12.5	1019333.0	0.417994	Y
3	STD2 280-416844/14	2.0	0.781616	12.5	1080358.0	0.390808	Y
4	STD5 280-416844/13	5.0	1.945604	12.5	1050580.0	0.389121	Y
5	ICIS 280-416844/12	10.0	3.932378	12.5	1075720.0	0.393238	Y
6	STD30 280-416844/11	30.0	11.054085	12.5	984385.0	0.368469	Y
7	STD60 280-416844/10	60.0	20.030906	12.5	1022372.0	0.333848	Y





## Calibration

/ Vinyl chloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

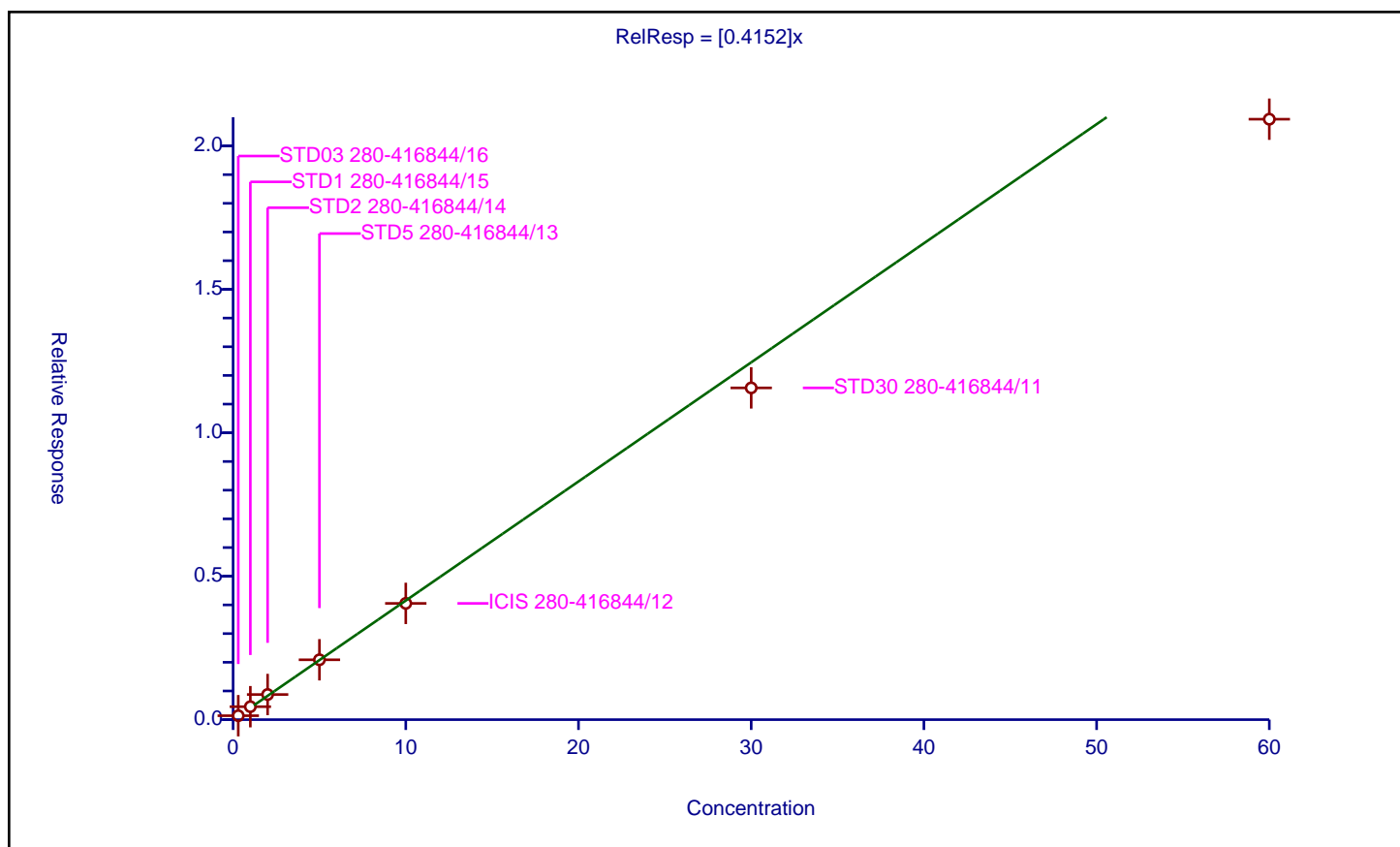
### Curve Coefficients

Intercept: 0  
 Slope: 0.4152

### Error Coefficients

Standard Error: 808000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.137639	12.5	1034682.0	0.458796	Y
2	STD1 280-416844/15	1.0	0.452244	12.5	1019333.0	0.452244	Y
3	STD2 280-416844/14	2.0	0.875844	12.5	1080358.0	0.437922	Y
4	STD5 280-416844/13	5.0	2.087466	12.5	1050580.0	0.417493	Y
5	ICIS 280-416844/12	10.0	4.053099	12.5	1075720.0	0.40531	Y
6	STD30 280-416844/11	30.0	11.565406	12.5	984385.0	0.385514	Y
7	STD60 280-416844/10	60.0	20.93284	12.5	1022372.0	0.348881	Y





# Calibration

/ Bromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

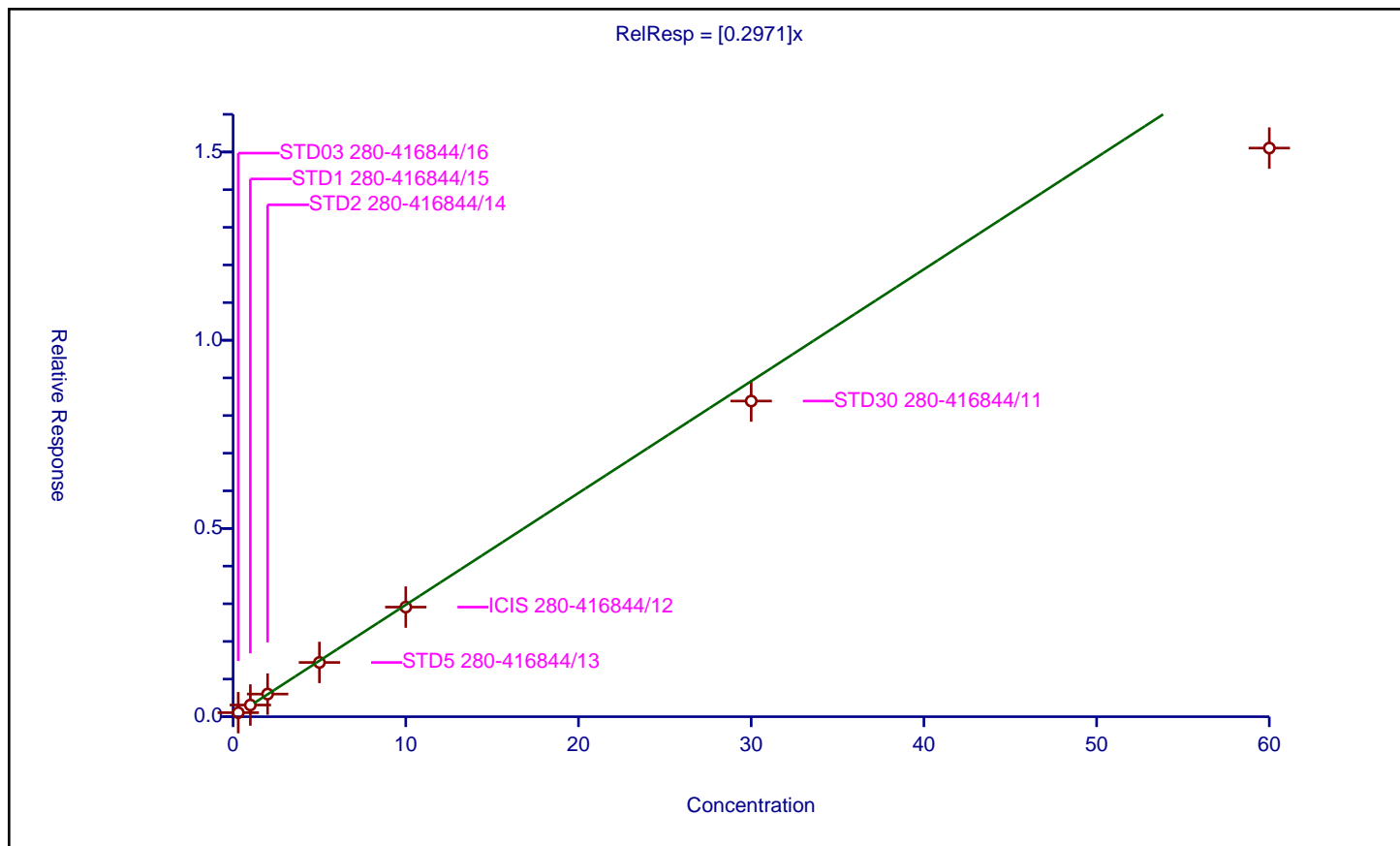
## Curve Coefficients

Intercept: 0  
 Slope: 0.2971

## Error Coefficients

Standard Error: 584000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.107291	12.5	1034682.0	0.357638	Y
2	STD1 280-416844/15	1.0	0.310595	12.5	1019333.0	0.310595	Y
3	STD2 280-416844/14	2.0	0.601757	12.5	1080358.0	0.300878	Y
4	STD5 280-416844/13	5.0	1.441382	12.5	1050580.0	0.288276	Y
5	ICIS 280-416844/12	10.0	2.91155	12.5	1075720.0	0.291155	Y
6	STD30 280-416844/11	30.0	8.385172	12.5	984385.0	0.279506	Y
7	STD60 280-416844/10	60.0	15.104764	12.5	1022372.0	0.251746	Y





## Calibration

/ Chloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

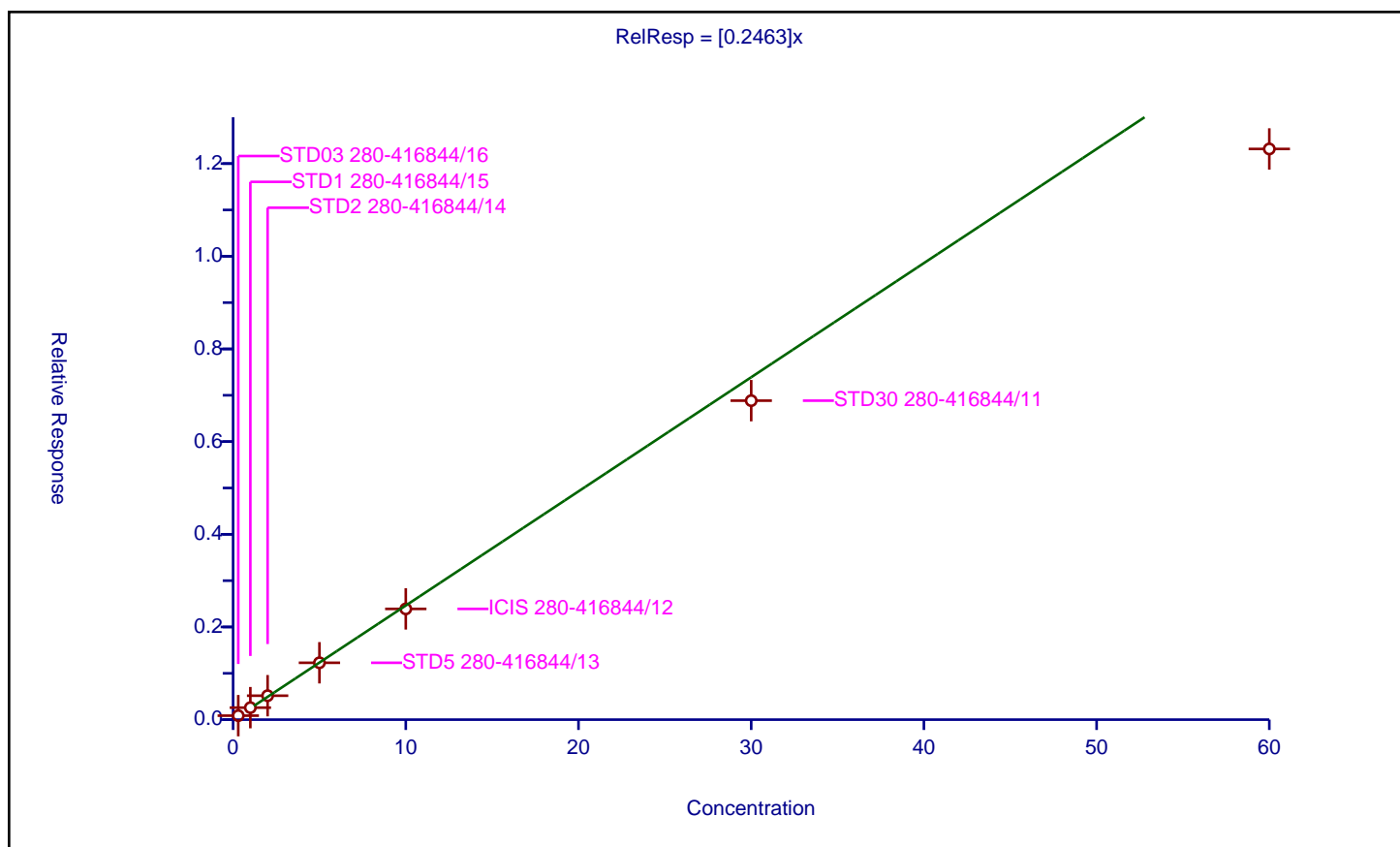
### Curve Coefficients

Intercept: 0  
 Slope: 0.2463

### Error Coefficients

Standard Error: 477000  
 Relative Standard Error: 10.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.086307	12.5	1034682.0	0.287689	Y
2	STD1 280-416844/15	1.0	0.259005	12.5	1019333.0	0.259005	Y
3	STD2 280-416844/14	2.0	0.516657	12.5	1080358.0	0.258329	Y
4	STD5 280-416844/13	5.0	1.227298	12.5	1050580.0	0.24546	Y
5	ICIS 280-416844/12	10.0	2.390167	12.5	1075720.0	0.239017	Y
6	STD30 280-416844/11	30.0	6.884171	12.5	984385.0	0.229472	Y
7	STD60 280-416844/10	60.0	12.316371	12.5	1022372.0	0.205273	Y





## Calibration

/ Dichlorofluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

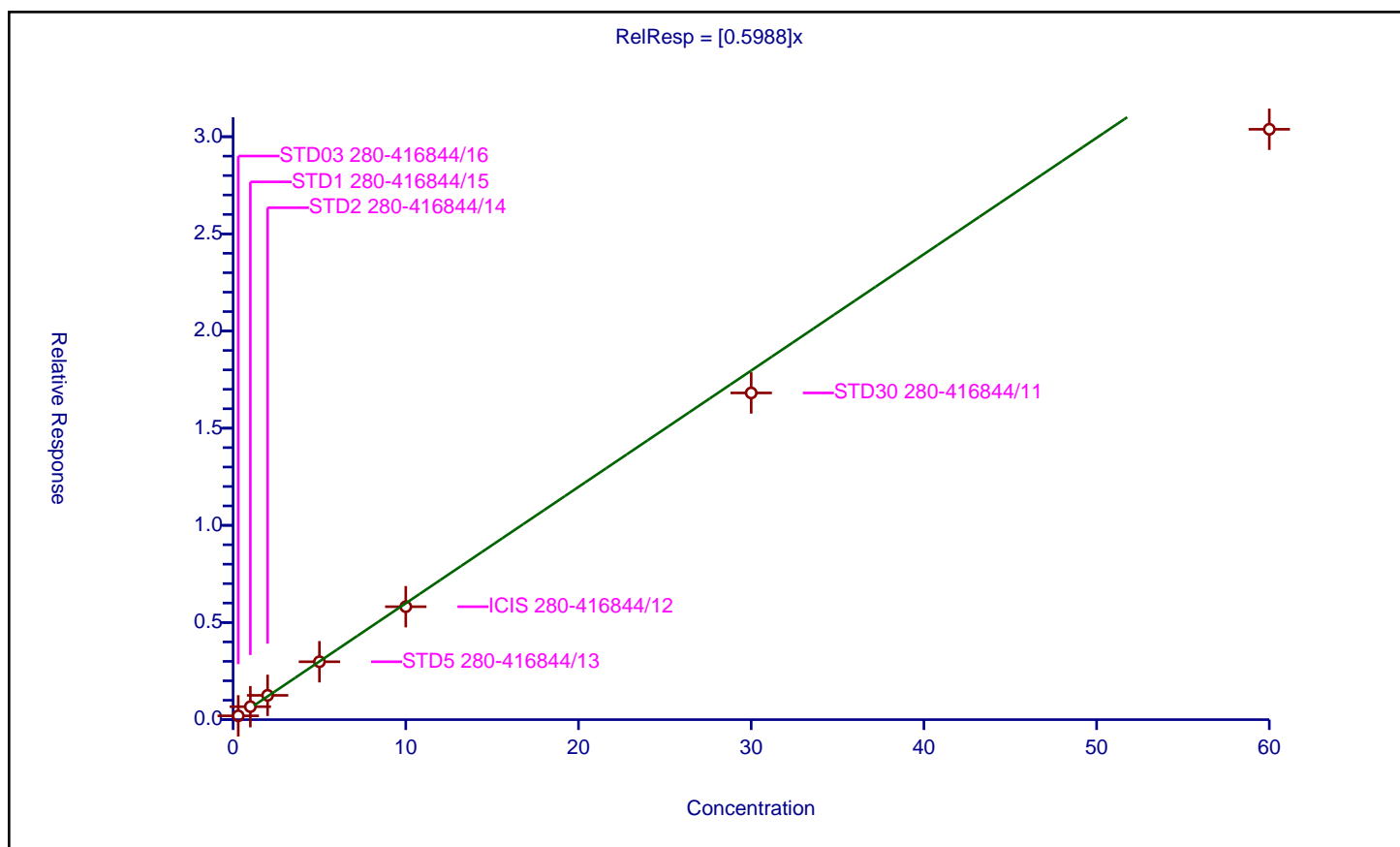
### Curve Coefficients

Intercept: 0  
 Slope: 0.5988

### Error Coefficients

Standard Error: 1170000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.196111	12.5	1034682.0	0.653703	Y
2	STD1 280-416844/15	1.0	0.668832	12.5	1019333.0	0.668832	Y
3	STD2 280-416844/14	2.0	1.2505	12.5	1080358.0	0.62525	Y
4	STD5 280-416844/13	5.0	2.979414	12.5	1050580.0	0.595883	Y
5	ICIS 280-416844/12	10.0	5.812735	12.5	1075720.0	0.581273	Y
6	STD30 280-416844/11	30.0	16.813975	12.5	984385.0	0.560466	Y
7	STD60 280-416844/10	60.0	30.382728	12.5	1022372.0	0.506379	Y





## Calibration

/ Trichlorofluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

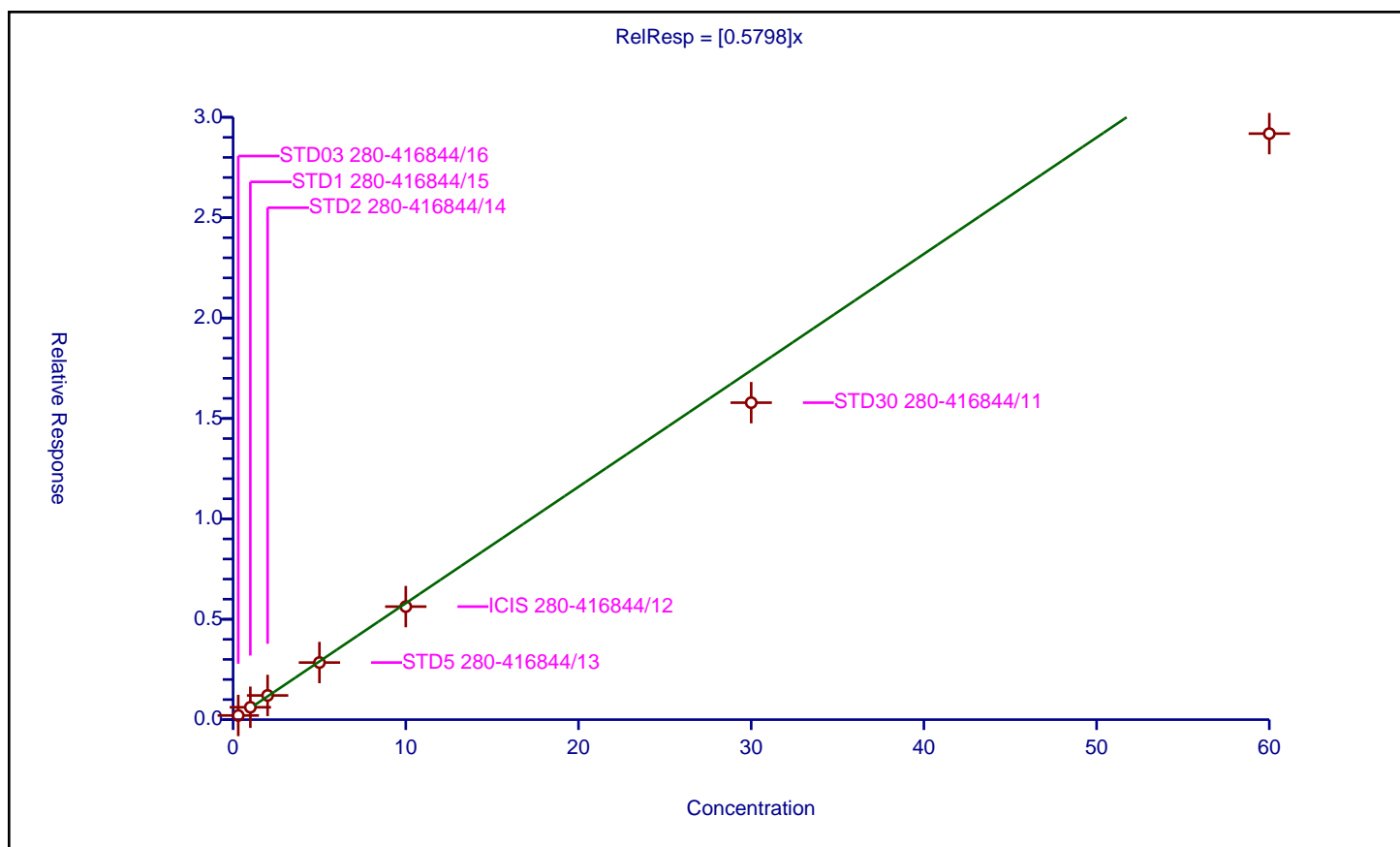
### Curve Coefficients

Intercept: 0  
 Slope: 0.5798

### Error Coefficients

Standard Error: 1120000  
 Relative Standard Error: 11.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.208397	12.5	1034682.0	0.694658	Y
2	STD1 280-416844/15	1.0	0.616911	12.5	1019333.0	0.616911	Y
3	STD2 280-416844/14	2.0	1.205492	12.5	1080358.0	0.602746	Y
4	STD5 280-416844/13	5.0	2.844131	12.5	1050580.0	0.568826	Y
5	ICIS 280-416844/12	10.0	5.630496	12.5	1075720.0	0.56305	Y
6	STD30 280-416844/11	30.0	15.786646	12.5	984385.0	0.526222	Y
7	STD60 280-416844/10	60.0	29.185353	12.5	1022372.0	0.486423	Y





## Calibration

/ Ethyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

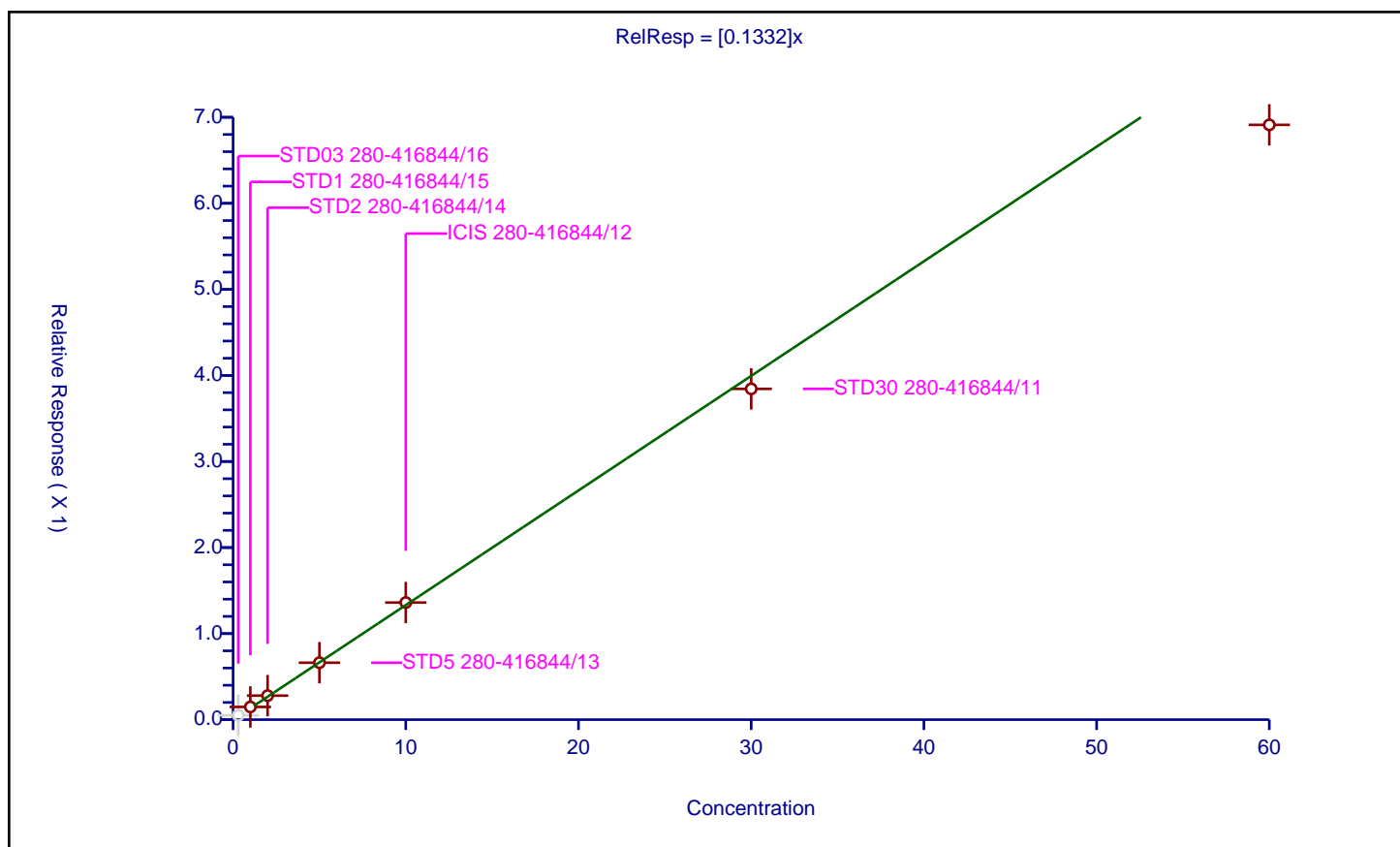
### Curve Coefficients

Intercept: 0  
 Slope: 0.1332

### Error Coefficients

Standard Error: 293000  
 Relative Standard Error: 8.3  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.049895	12.5	1034682.0	0.166315	N
2	STD1 280-416844/15	1.0	0.147682	12.5	1019333.0	0.147682	Y
3	STD2 280-416844/14	2.0	0.279028	12.5	1080358.0	0.139514	Y
4	STD5 280-416844/13	5.0	0.661765	12.5	1050580.0	0.132353	Y
5	ICIS 280-416844/12	10.0	1.36074	12.5	1075720.0	0.136074	Y
6	STD30 280-416844/11	30.0	3.843936	12.5	984385.0	0.128131	Y
7	STD60 280-416844/10	60.0	6.91199	12.5	1022372.0	0.1152	Y





## Calibration

/ Acrolein

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

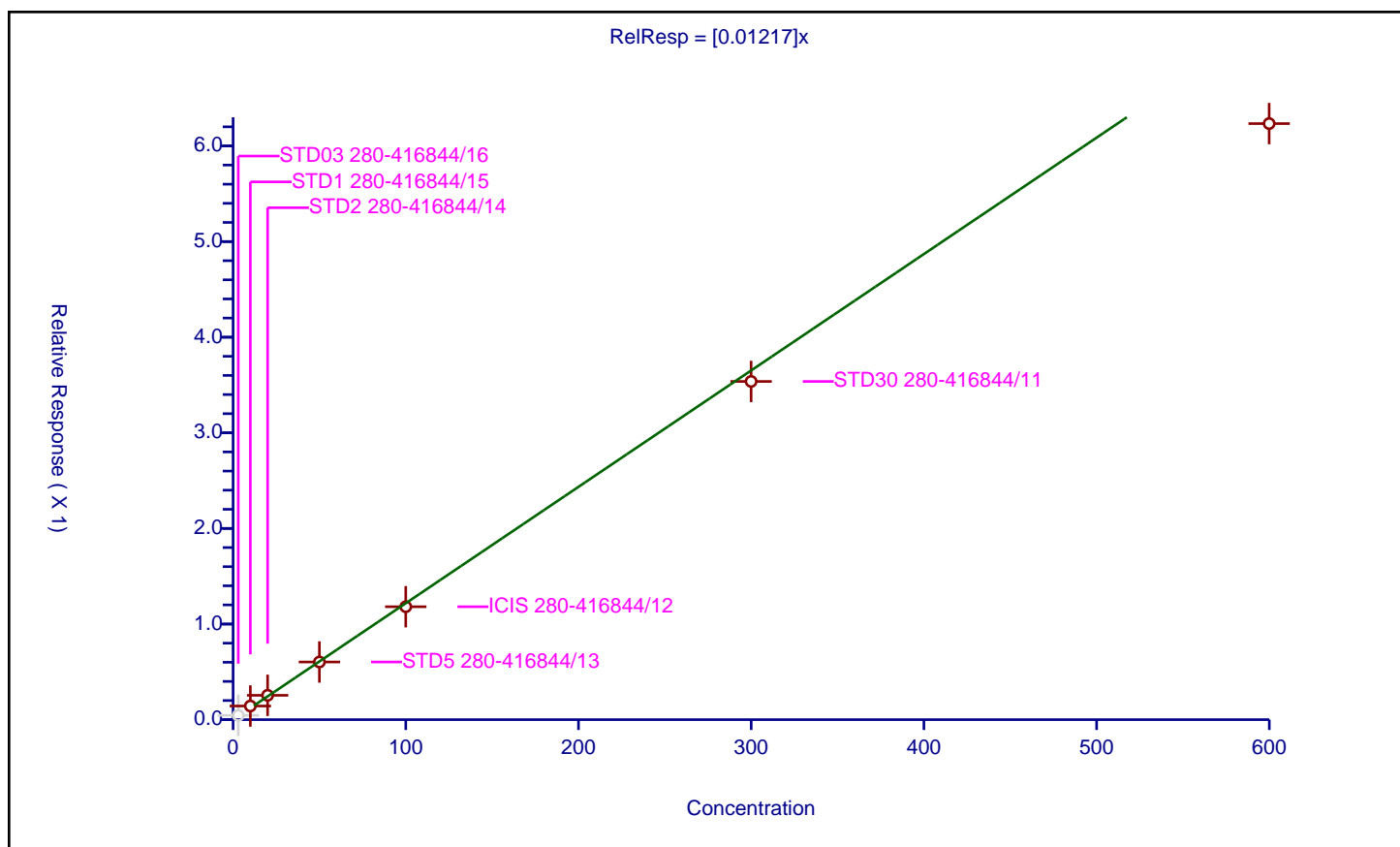
## Curve Coefficients

Intercept: 0  
Slope: 0.01217

## Error Coefficients

Standard Error: 265000  
Relative Standard Error: 10.5  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	2.999531	0.04499	12.5	1034682.0	0.014999	N
2	STD1 280-416844/15	9.998438	0.14263	12.5	1019333.0	0.014265	Y
3	STD2 280-416844/14	19.996875	0.254383	12.5	1080358.0	0.012721	Y
4	STD5 280-416844/13	49.992188	0.602953	12.5	1050580.0	0.012061	Y
5	ICIS 280-416844/12	99.984375	1.180907	12.5	1075720.0	0.011811	Y
6	STD30 280-416844/11	299.953125	3.537056	12.5	984385.0	0.011792	Y
7	STD60 280-416844/10	599.90625	6.233934	12.5	1022372.0	0.010392	Y





## Calibration

/ 1,1,2-Trichloro-1,2,2-trifluoroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

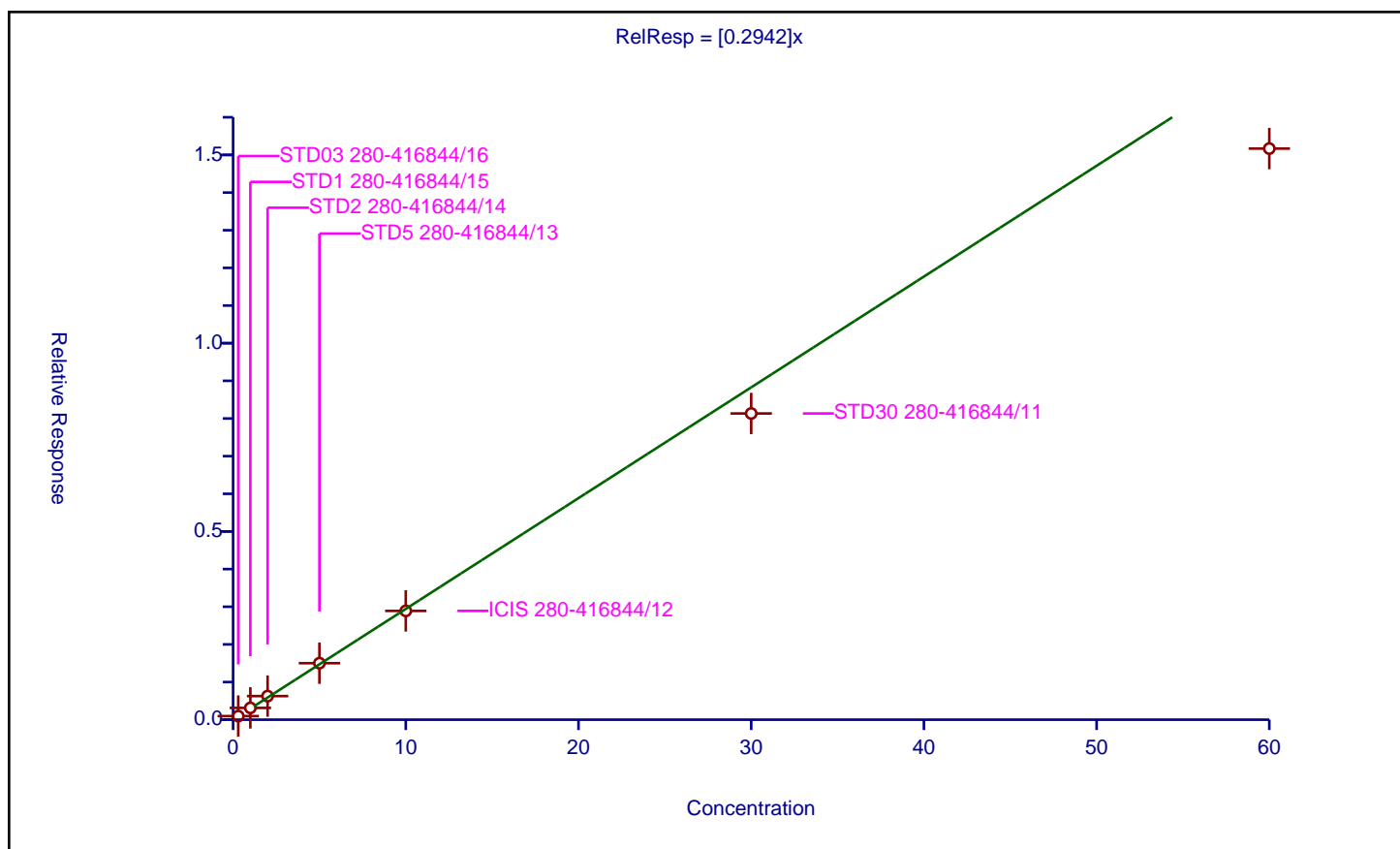
### Curve Coefficients

Intercept: 0  
 Slope: 0.2942

### Error Coefficients

Standard Error: 582000  
 Relative Standard Error: 8.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.095766	12.5	1034682.0	0.31922	Y
2	STD1 280-416844/15	1.0	0.313624	12.5	1019333.0	0.313624	Y
3	STD2 280-416844/14	2.0	0.62728	12.5	1080358.0	0.31364	Y
4	STD5 280-416844/13	5.0	1.501159	12.5	1050580.0	0.300232	Y
5	ICIS 280-416844/12	10.0	2.889727	12.5	1075720.0	0.288973	Y
6	STD30 280-416844/11	30.0	8.133009	12.5	984385.0	0.2711	Y
7	STD60 280-416844/10	60.0	15.168843	12.5	1022372.0	0.252814	Y





## Calibration

/ 1,1-Dichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

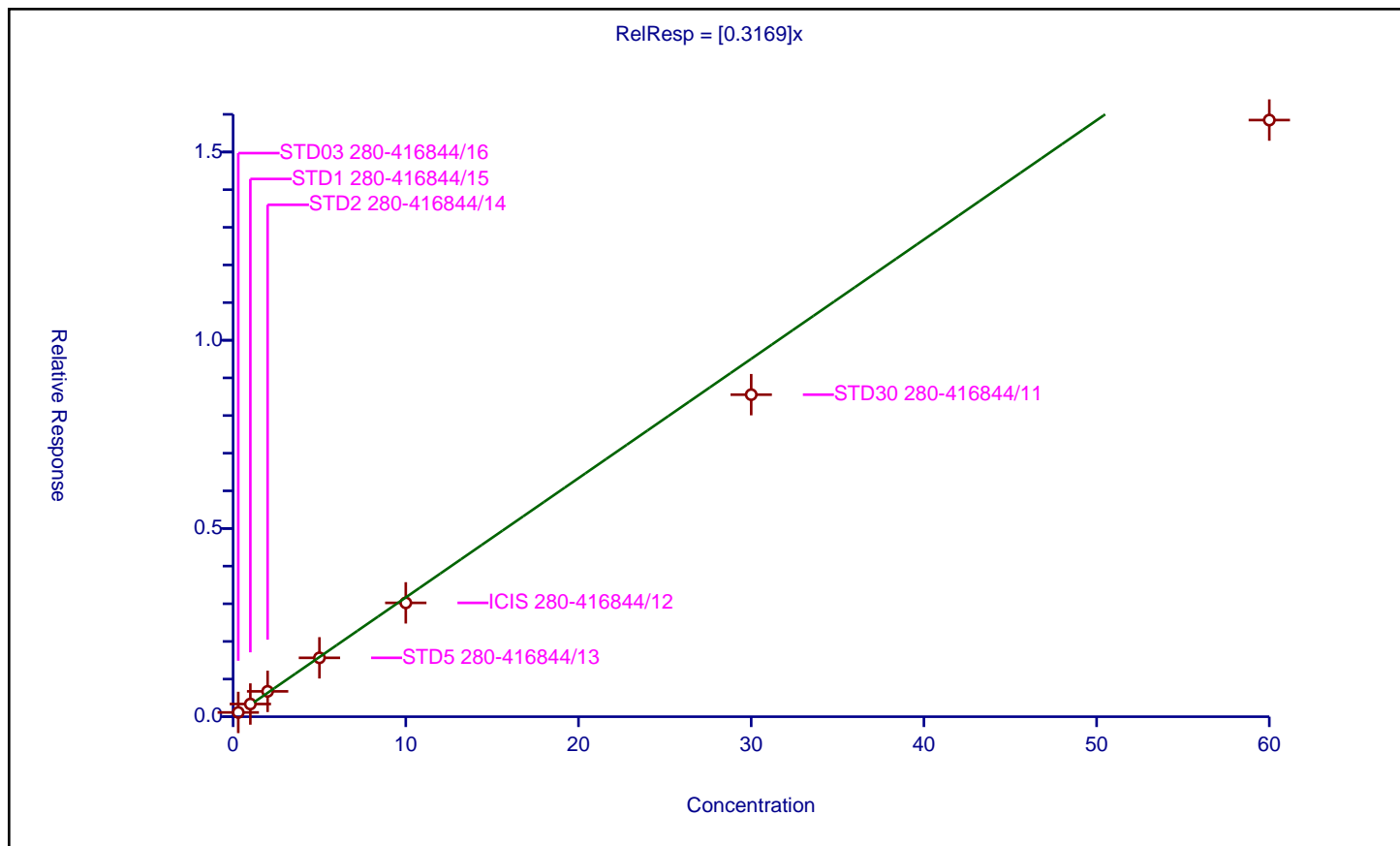
### Curve Coefficients

Intercept: 0  
 Slope: 0.3169

### Error Coefficients

Standard Error: 609000  
 Relative Standard Error: 12.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.113779	12.5	1034682.0	0.379263	Y
2	STD1 280-416844/15	1.0	0.337316	12.5	1019333.0	0.337316	Y
3	STD2 280-416844/14	2.0	0.673666	12.5	1080358.0	0.336833	Y
4	STD5 280-416844/13	5.0	1.564314	12.5	1050580.0	0.312863	Y
5	ICIS 280-416844/12	10.0	3.02437	12.5	1075720.0	0.302437	Y
6	STD30 280-416844/11	30.0	8.554796	12.5	984385.0	0.28516	Y
7	STD60 280-416844/10	60.0	15.848769	12.5	1022372.0	0.264146	Y





# Calibration

/ Acetone

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

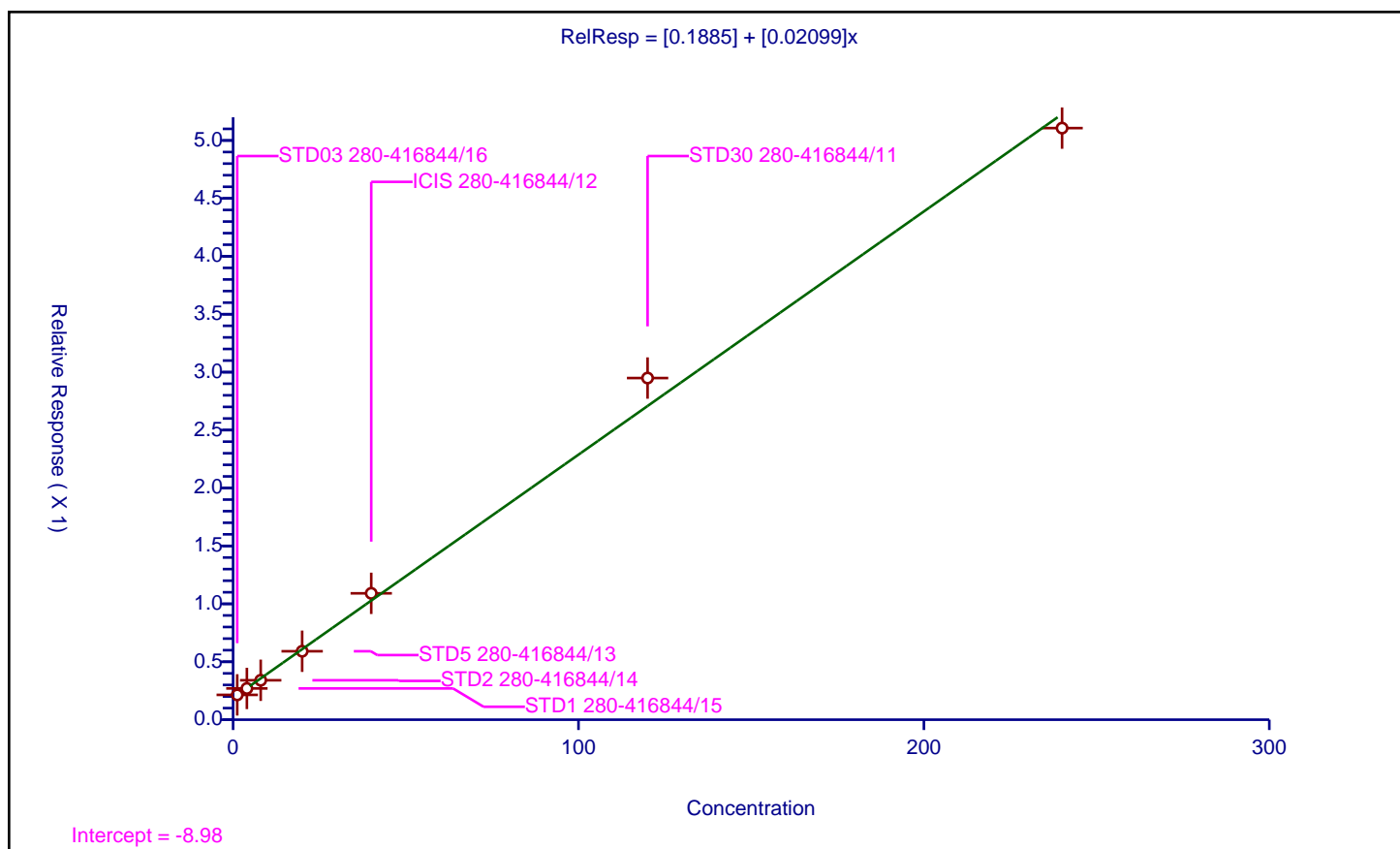
## Curve Coefficients

Intercept: 0.1885  
 Slope: 0.02099

## Error Coefficients

Standard Error: 220000  
 Relative Standard Error: 7.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.214293	12.5	1034682.0	0.178577	Y
2	STD1 280-416844/15	4.0	0.269747	12.5	1019333.0	0.067437	Y
3	STD2 280-416844/14	8.0	0.340431	12.5	1080358.0	0.042554	Y
4	STD5 280-416844/13	20.0	0.590793	12.5	1050580.0	0.02954	Y
5	ICIS 280-416844/12	40.0	1.090711	12.5	1075720.0	0.027268	Y
6	STD30 280-416844/11	120.0	2.949202	12.5	984385.0	0.024577	Y
7	STD60 280-416844/10	240.0	5.106642	12.5	1022372.0	0.021278	Y





# Calibration

/ Iodomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

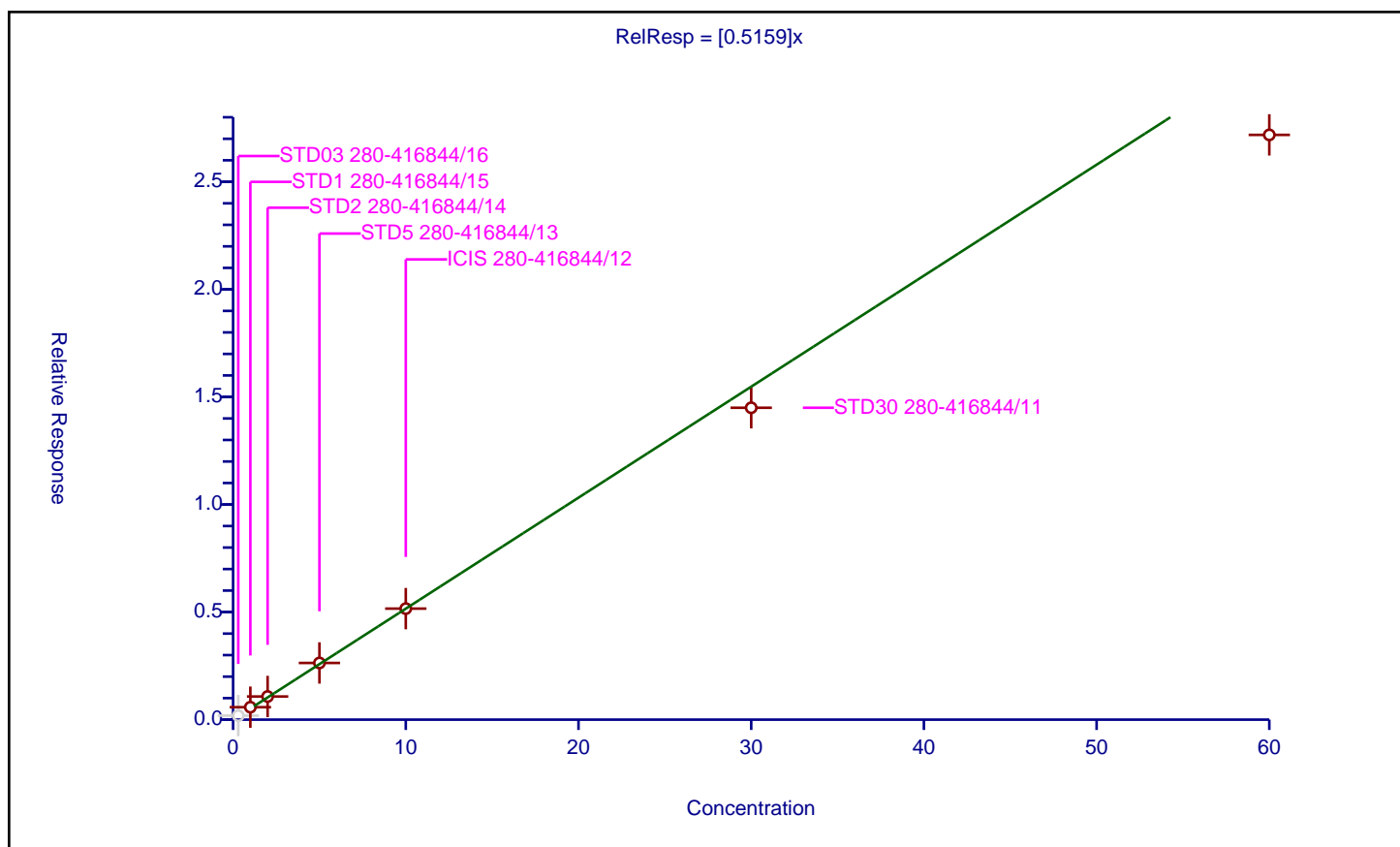
## Curve Coefficients

Intercept: 0  
 Slope: 0.5159

## Error Coefficients

Standard Error: 1140000  
 Relative Standard Error: 8.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.186446	12.5	1034682.0	0.621487	N
2	STD1 280-416844/15	1.0	0.578111	12.5	1019333.0	0.578111	Y
3	STD2 280-416844/14	2.0	1.075847	12.5	1080358.0	0.537924	Y
4	STD5 280-416844/13	5.0	2.635389	12.5	1050580.0	0.527078	Y
5	ICIS 280-416844/12	10.0	5.160869	12.5	1075720.0	0.516087	Y
6	STD30 280-416844/11	30.0	14.497008	12.5	984385.0	0.483234	Y
7	STD60 280-416844/10	60.0	27.181801	12.5	1022372.0	0.45303	Y





# Calibration

/ Methyl acetate

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

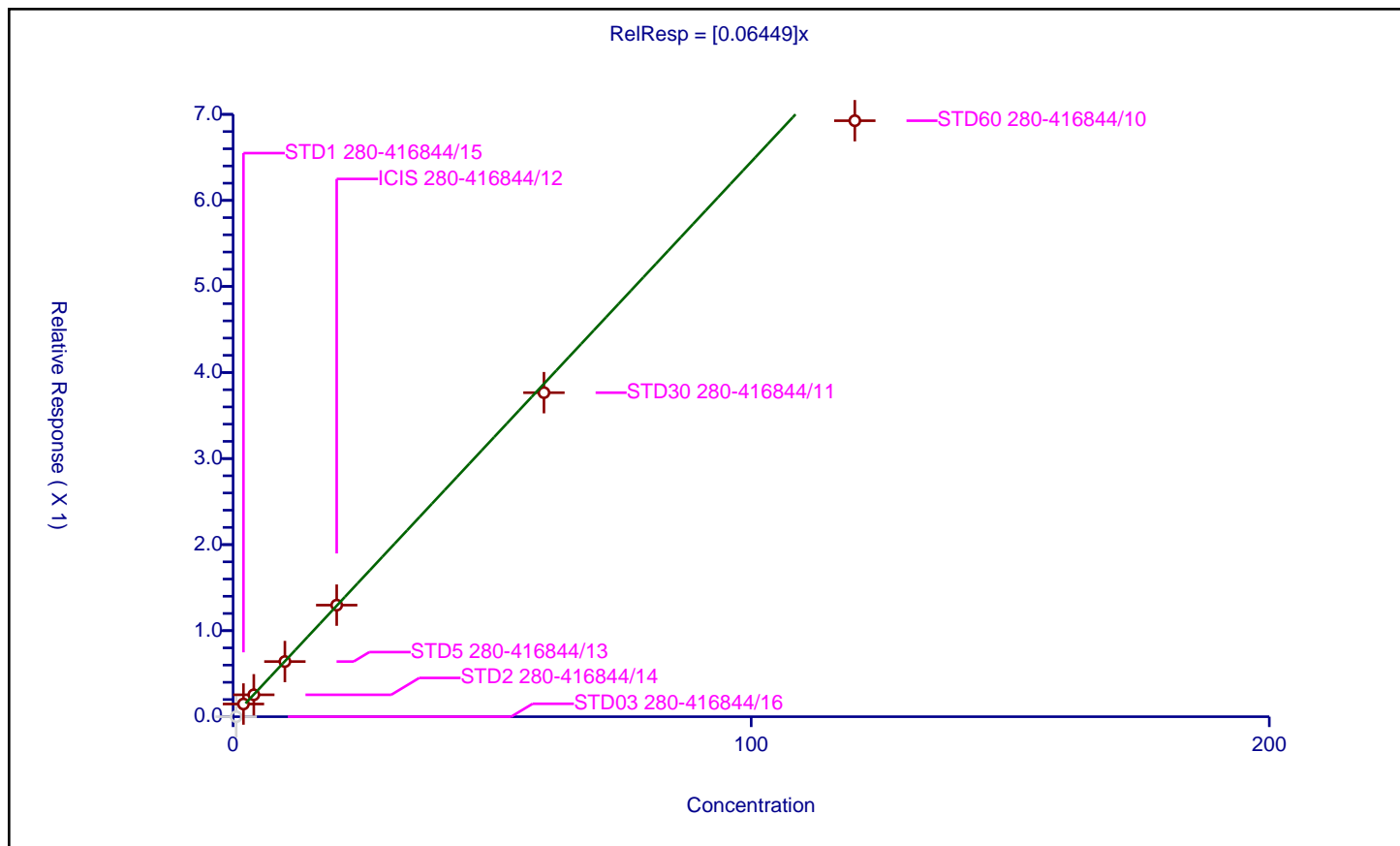
## Curve Coefficients

Intercept: 0  
Slope: 0.06449

## Error Coefficients

Standard Error: 291000  
Relative Standard Error: 8.1  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.6	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	2.0	0.147597	12.5	1019333.0	0.073798	Y
3	STD2 280-416844/14	4.0	0.254811	12.5	1080358.0	0.063703	Y
4	STD5 280-416844/13	10.0	0.641003	12.5	1050580.0	0.0641	Y
5	ICIS 280-416844/12	20.0	1.29669	12.5	1075720.0	0.064834	Y
6	STD30 280-416844/11	60.0	3.765854	12.5	984385.0	0.062764	Y
7	STD60 280-416844/10	120.0	6.926222	12.5	1022372.0	0.057719	Y





## Calibration

/ Carbon disulfide

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

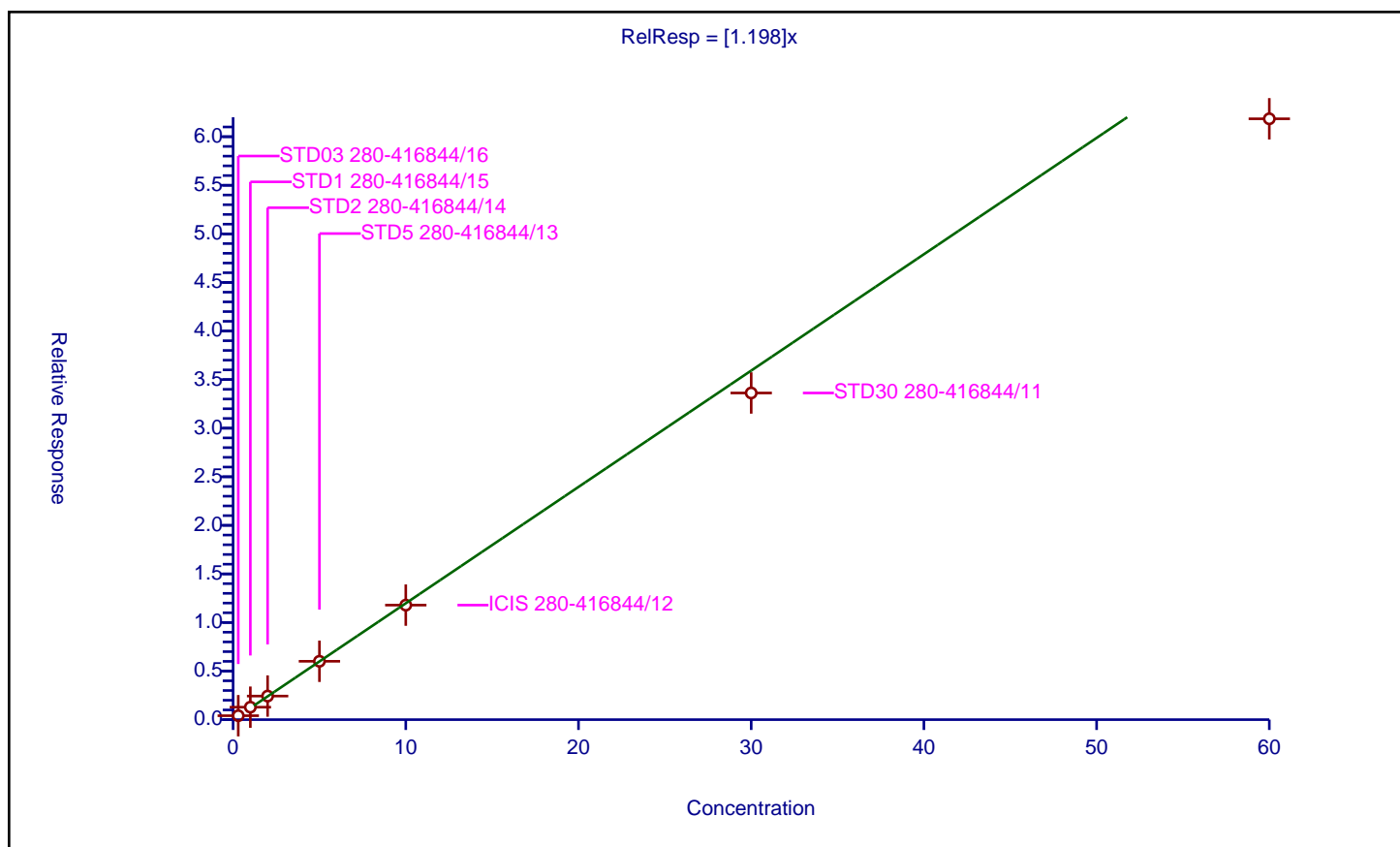
### Curve Coefficients

Intercept: 0  
 Slope: 1.198

### Error Coefficients

Standard Error: 2380000  
 Relative Standard Error: 8.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.406151	12.5	1034682.0	1.353838	Y
2	STD1 280-416844/15	1.0	1.283634	12.5	1019333.0	1.283634	Y
3	STD2 280-416844/14	2.0	2.426869	12.5	1080358.0	1.213435	Y
4	STD5 280-416844/13	5.0	6.007634	12.5	1050580.0	1.201527	Y
5	ICIS 280-416844/12	10.0	11.787593	12.5	1075720.0	1.178759	Y
6	STD30 280-416844/11	30.0	33.62395	12.5	984385.0	1.120798	Y
7	STD60 280-416844/10	60.0	61.844845	12.5	1022372.0	1.030747	Y





## Calibration

/ 3-Chloro-1-propene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

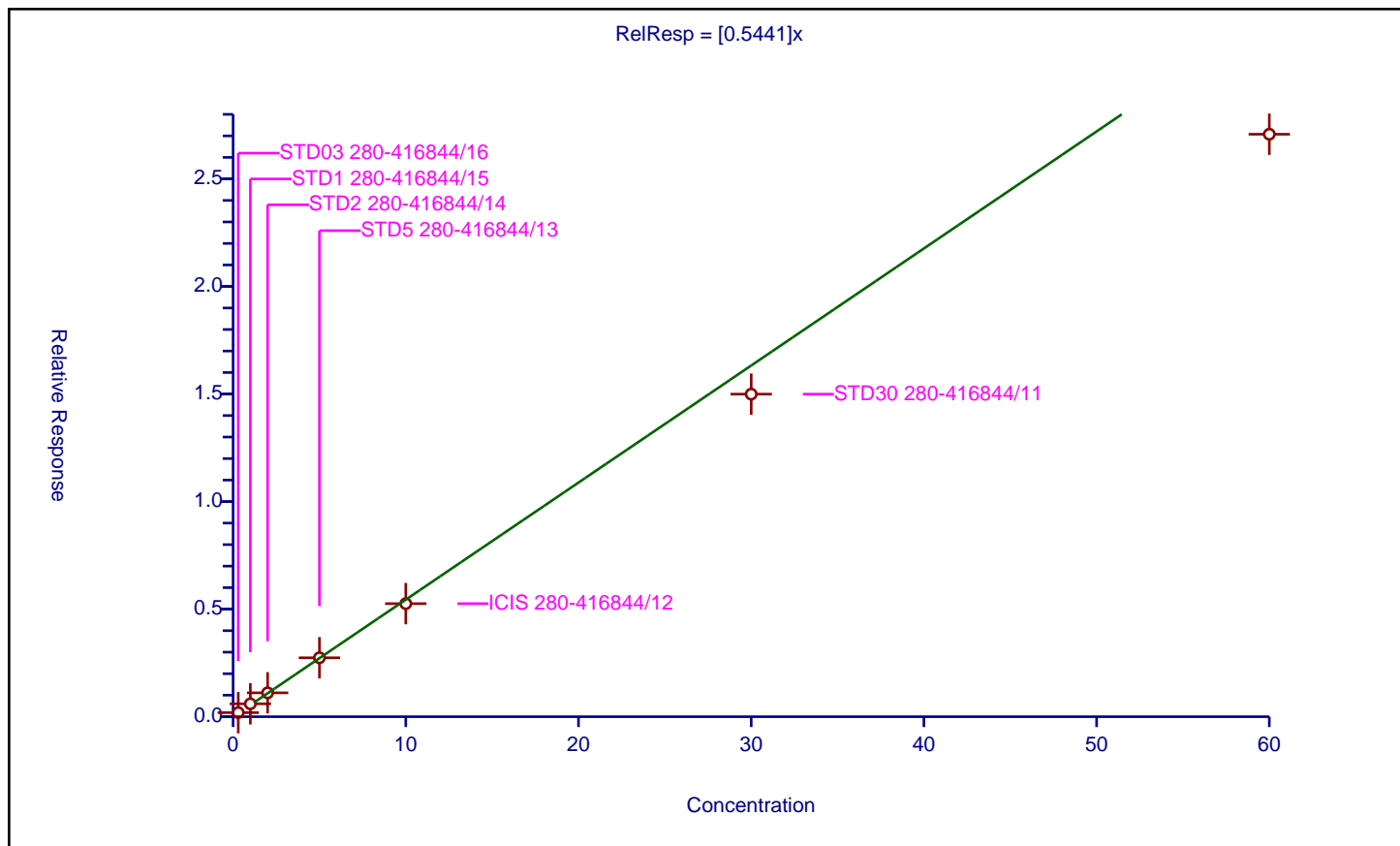
### Curve Coefficients

Intercept: 0  
 Slope: 0.5441

### Error Coefficients

Standard Error: 1050000  
 Relative Standard Error: 11.0  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.188947	12.5	1034682.0	0.629823	Y
2	STD1 280-416844/15	1.0	0.599681	12.5	1019333.0	0.599681	Y
3	STD2 280-416844/14	2.0	1.11006	12.5	1080358.0	0.55503	Y
4	STD5 280-416844/13	5.0	2.738987	12.5	1050580.0	0.547797	Y
5	ICIS 280-416844/12	10.0	5.256003	12.5	1075720.0	0.5256	Y
6	STD30 280-416844/11	30.0	14.994451	12.5	984385.0	0.499815	Y
7	STD60 280-416844/10	60.0	27.077106	12.5	1022372.0	0.451285	Y





## Calibration

/ 2-Methyl-2-propanol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

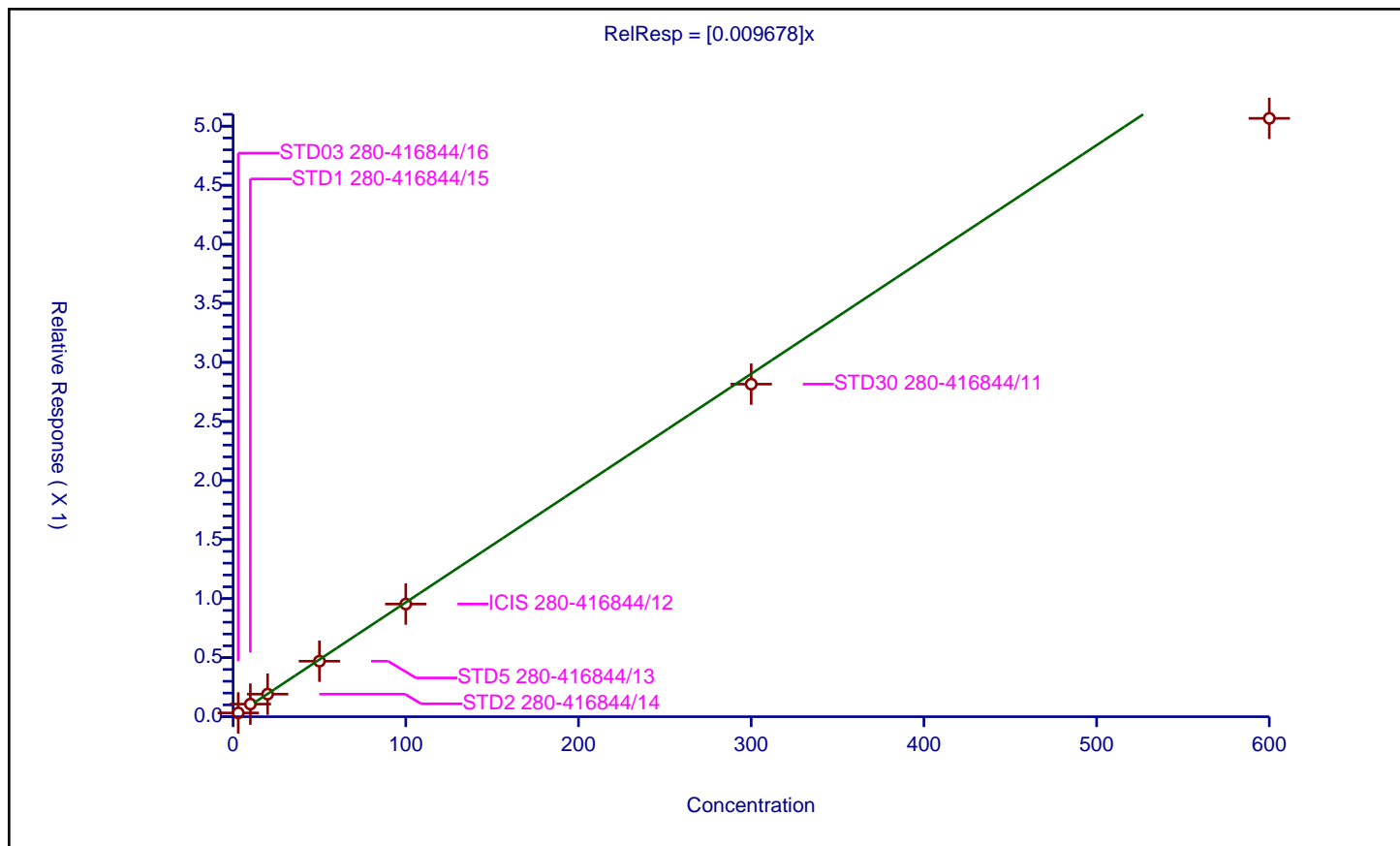
### Curve Coefficients

Intercept: 0  
 Slope: 0.009678

### Error Coefficients

Standard Error: 196000  
 Relative Standard Error: 8.3  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	3.0	0.03216	12.5	1034682.0	0.01072	Y
2	STD1 280-416844/15	10.0	0.106945	12.5	1019333.0	0.010694	Y
3	STD2 280-416844/14	20.0	0.191198	12.5	1080358.0	0.00956	Y
4	STD5 280-416844/13	50.0	0.470097	12.5	1050580.0	0.009402	Y
5	ICIS 280-416844/12	100.0	0.953791	12.5	1075720.0	0.009538	Y
6	STD30 280-416844/11	300.0	2.815895	12.5	984385.0	0.009386	Y
7	STD60 280-416844/10	600.0	5.066294	12.5	1022372.0	0.008444	Y





# Calibration

/ Methylene Chloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

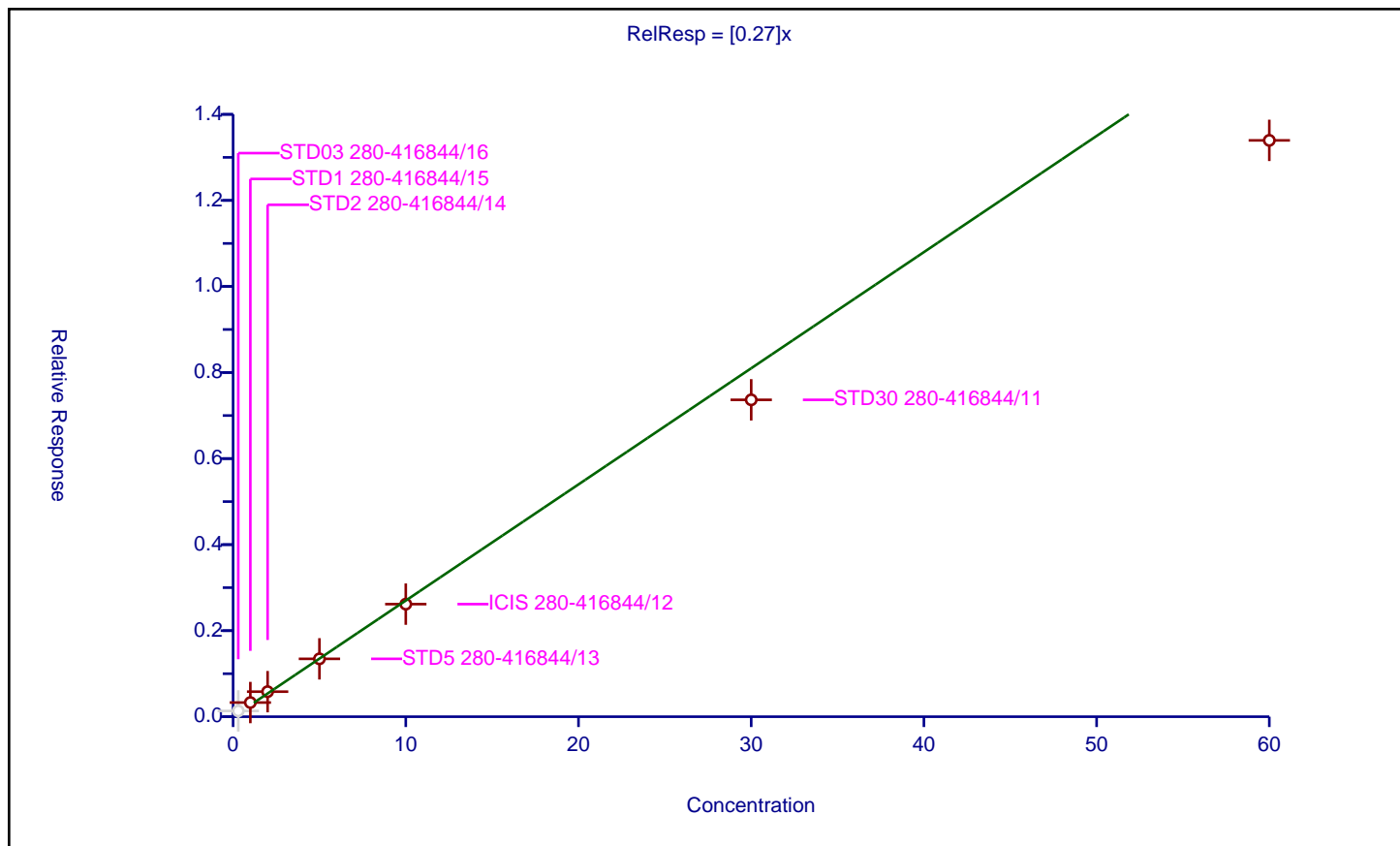
## Curve Coefficients

Intercept: 0  
 Slope: 0.27

## Error Coefficients

Standard Error: 566000  
 Relative Standard Error: 13.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.966

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.134884	12.5	1034682.0	0.449615	N
2	STD1 280-416844/15	1.0	0.329174	12.5	1019333.0	0.329174	Y
3	STD2 280-416844/14	2.0	0.582365	12.5	1080358.0	0.291182	Y
4	STD5 280-416844/13	5.0	1.344864	12.5	1050580.0	0.268973	Y
5	ICIS 280-416844/12	10.0	2.616387	12.5	1075720.0	0.261639	Y
6	STD30 280-416844/11	30.0	7.365005	12.5	984385.0	0.2455	Y
7	STD60 280-416844/10	60.0	13.395674	12.5	1022372.0	0.223261	Y





# Calibration

/ Methyl tert-butyl ether

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

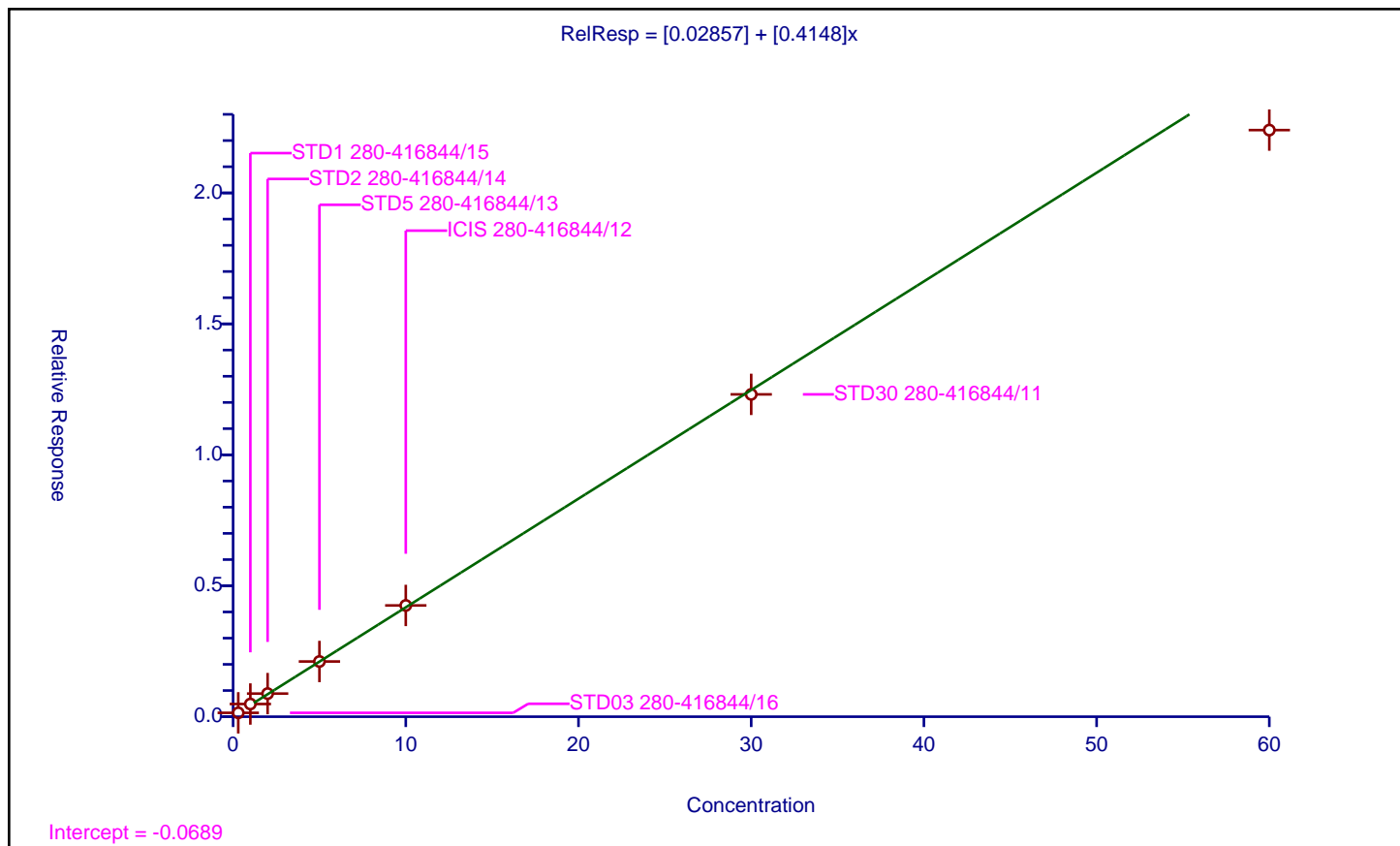
## Curve Coefficients

Intercept: 0.02857  
 Slope: 0.4148

## Error Coefficients

Standard Error: 945000  
 Relative Standard Error: 6.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.148729	12.5	1034682.0	0.495764	Y
2	STD1 280-416844/15	1.0	0.485072	12.5	1019333.0	0.485072	Y
3	STD2 280-416844/14	2.0	0.882173	12.5	1080358.0	0.441086	Y
4	STD5 280-416844/13	5.0	2.1078	12.5	1050580.0	0.42156	Y
5	ICIS 280-416844/12	10.0	4.248736	12.5	1075720.0	0.424874	Y
6	STD30 280-416844/11	30.0	12.308294	12.5	984385.0	0.410276	Y
7	STD60 280-416844/10	60.0	22.399931	12.5	1022372.0	0.373332	Y





## Calibration

/ trans-1,2-Dichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

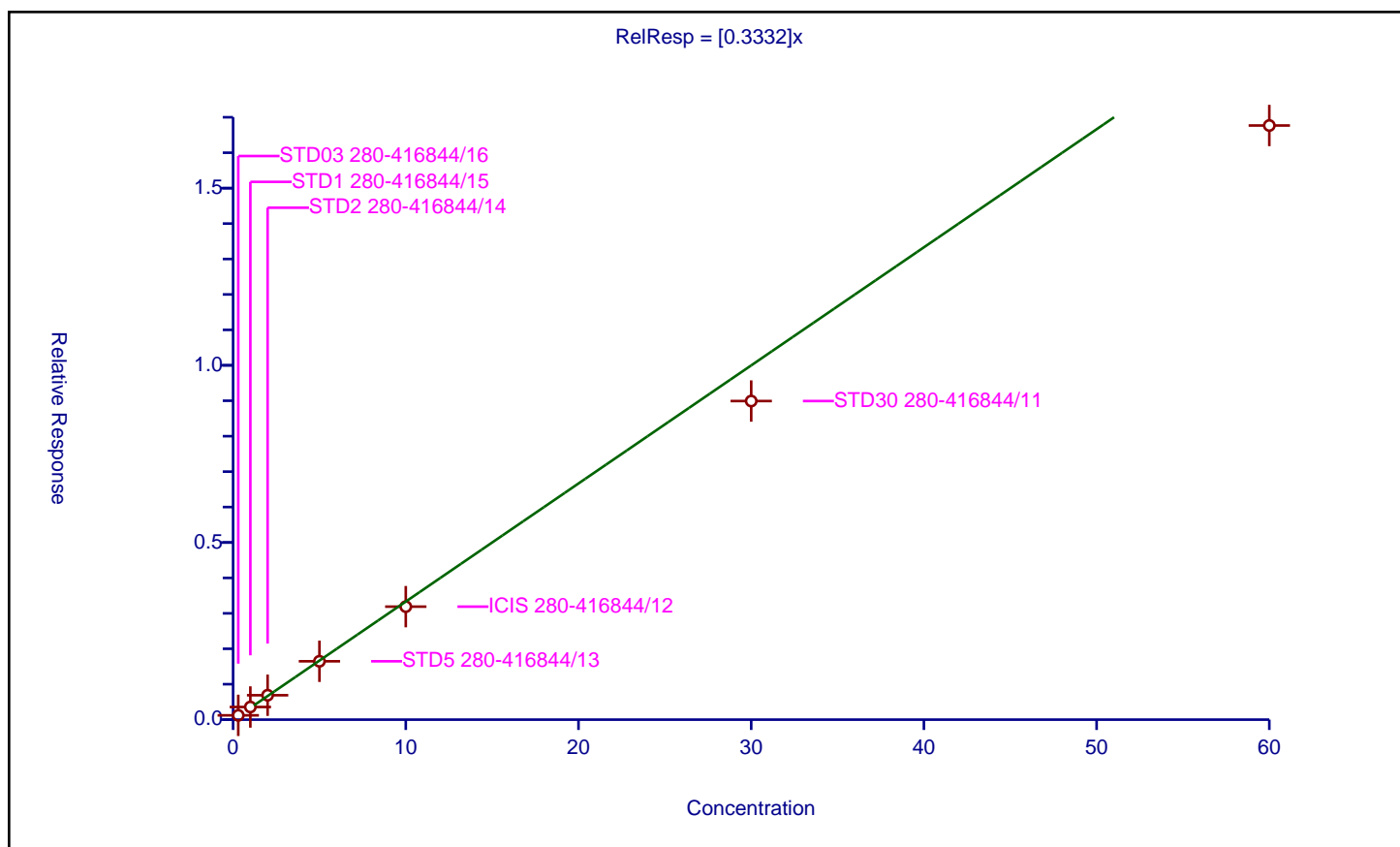
### Curve Coefficients

Intercept: 0  
 Slope: 0.3332

### Error Coefficients

Standard Error: 643000  
 Relative Standard Error: 12.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.121076	12.5	1034682.0	0.403586	Y
2	STD1 280-416844/15	1.0	0.357133	12.5	1019333.0	0.357133	Y
3	STD2 280-416844/14	2.0	0.688985	12.5	1080358.0	0.344492	Y
4	STD5 280-416844/13	5.0	1.647459	12.5	1050580.0	0.329492	Y
5	ICIS 280-416844/12	10.0	3.188725	12.5	1075720.0	0.318872	Y
6	STD30 280-416844/11	30.0	8.991286	12.5	984385.0	0.29971	Y
7	STD60 280-416844/10	60.0	16.76749	12.5	1022372.0	0.279458	Y





# Calibration

/ Acrylonitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

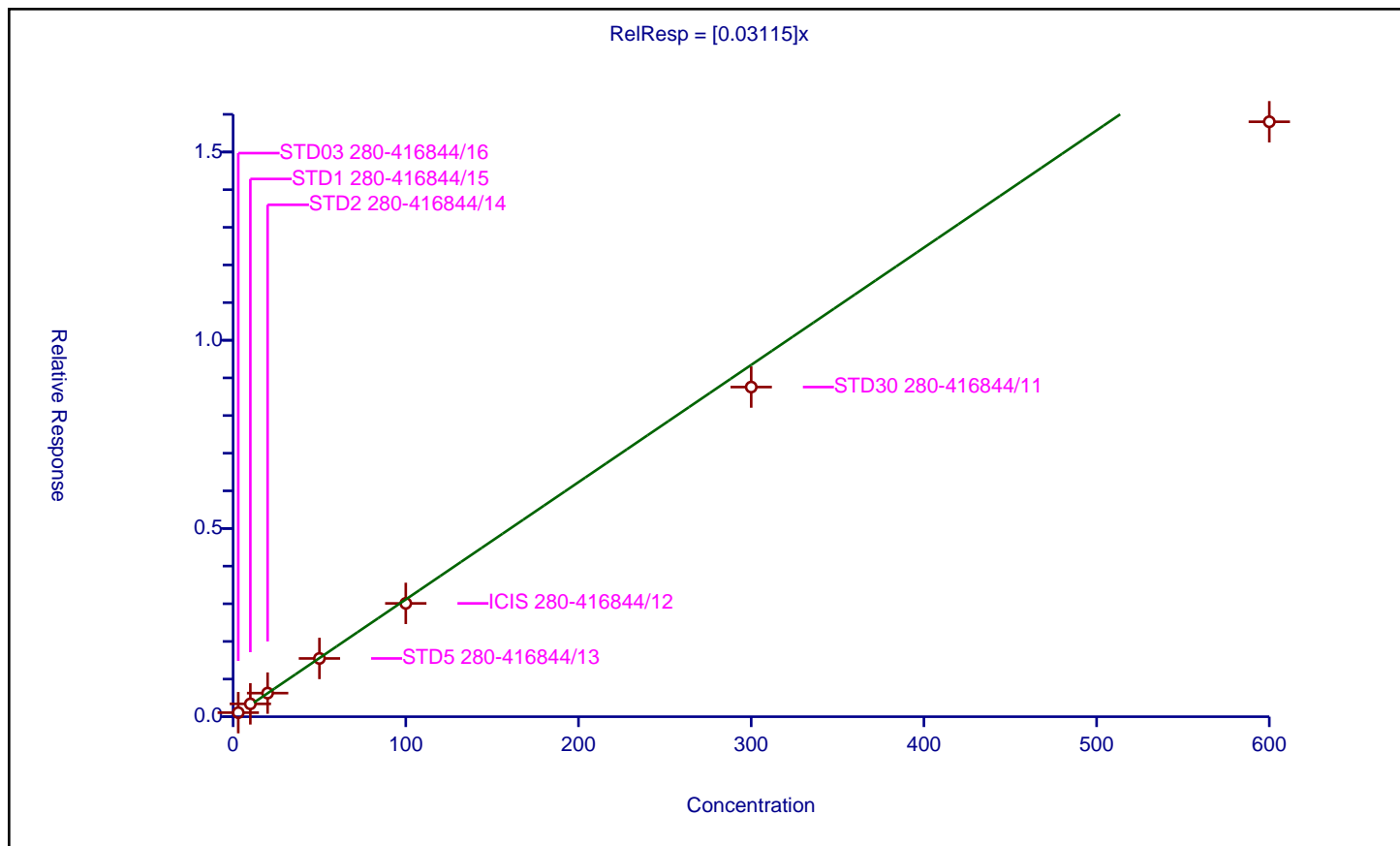
## Curve Coefficients

Intercept: 0  
 Slope: 0.03115

## Error Coefficients

Standard Error: 610000  
 Relative Standard Error: 10.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	3.0	0.10792	12.5	1034682.0	0.035973	Y
2	STD1 280-416844/15	10.0	0.341375	12.5	1019333.0	0.034138	Y
3	STD2 280-416844/14	20.0	0.627257	12.5	1080358.0	0.031363	Y
4	STD5 280-416844/13	50.0	1.547276	12.5	1050580.0	0.030946	Y
5	ICIS 280-416844/12	100.0	3.010158	12.5	1075720.0	0.030102	Y
6	STD30 280-416844/11	300.0	8.756254	12.5	984385.0	0.029188	Y
7	STD60 280-416844/10	600.0	15.803494	12.5	1022372.0	0.026339	Y





# Calibration

/ Hexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

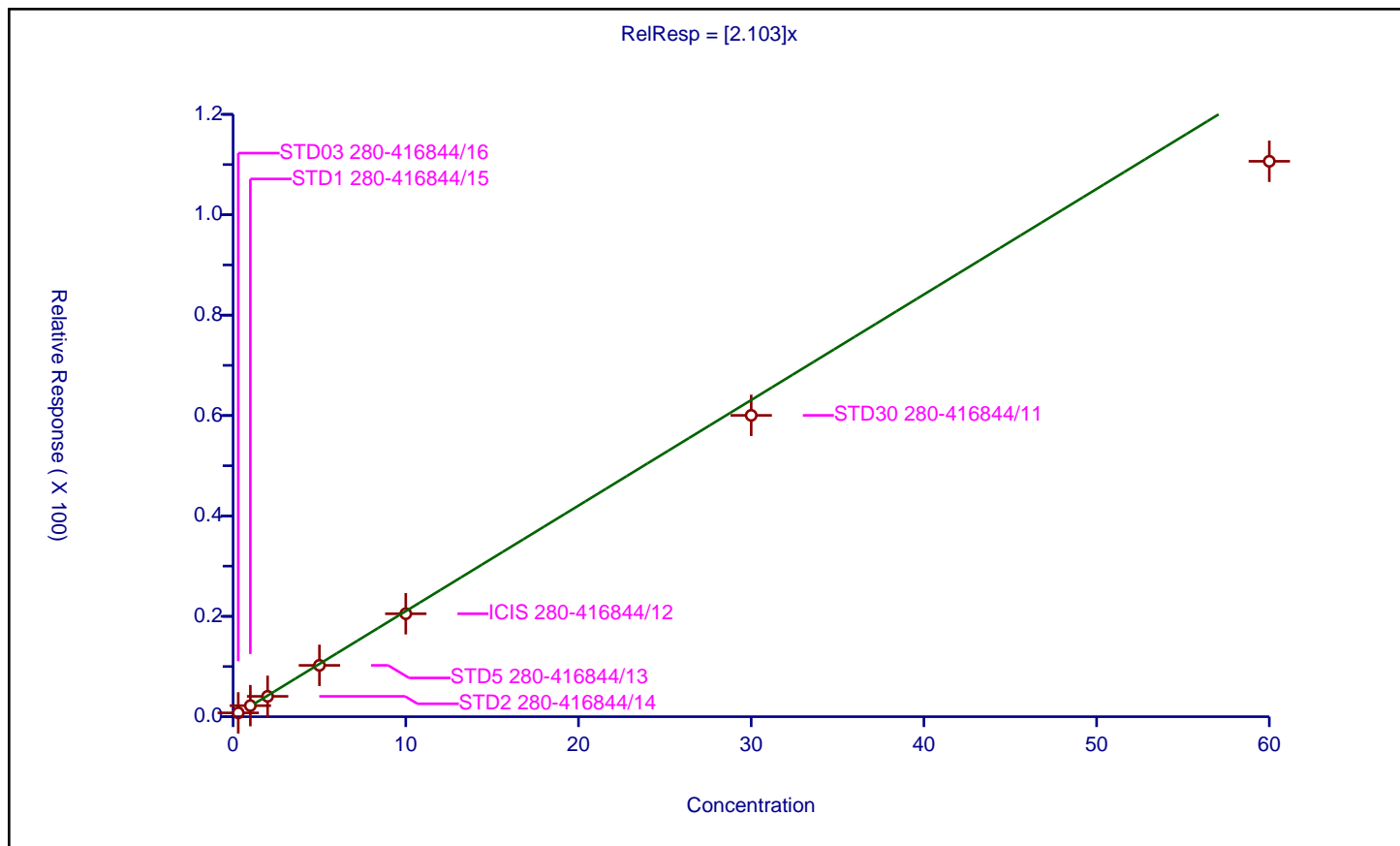
## Curve Coefficients

Intercept: 0  
 Slope: 2.103

## Error Coefficients

Standard Error: 1030000  
 Relative Standard Error: 10.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.763104	12.5	257845.0	2.543679	Y
2	STD1 280-416844/15	1.0	2.204432	12.5	255939.0	2.204432	Y
3	STD2 280-416844/14	2.0	4.05717	12.5	272382.0	2.028585	Y
4	STD5 280-416844/13	5.0	10.233229	12.5	264225.0	2.046646	Y
5	ICIS 280-416844/12	10.0	20.514526	12.5	267115.0	2.051453	Y
6	STD30 280-416844/11	30.0	60.034442	12.5	240331.0	2.001148	Y
7	STD60 280-416844/10	60.0	110.651331	12.5	246407.0	1.844189	Y





## Calibration

/ Vinyl acetate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

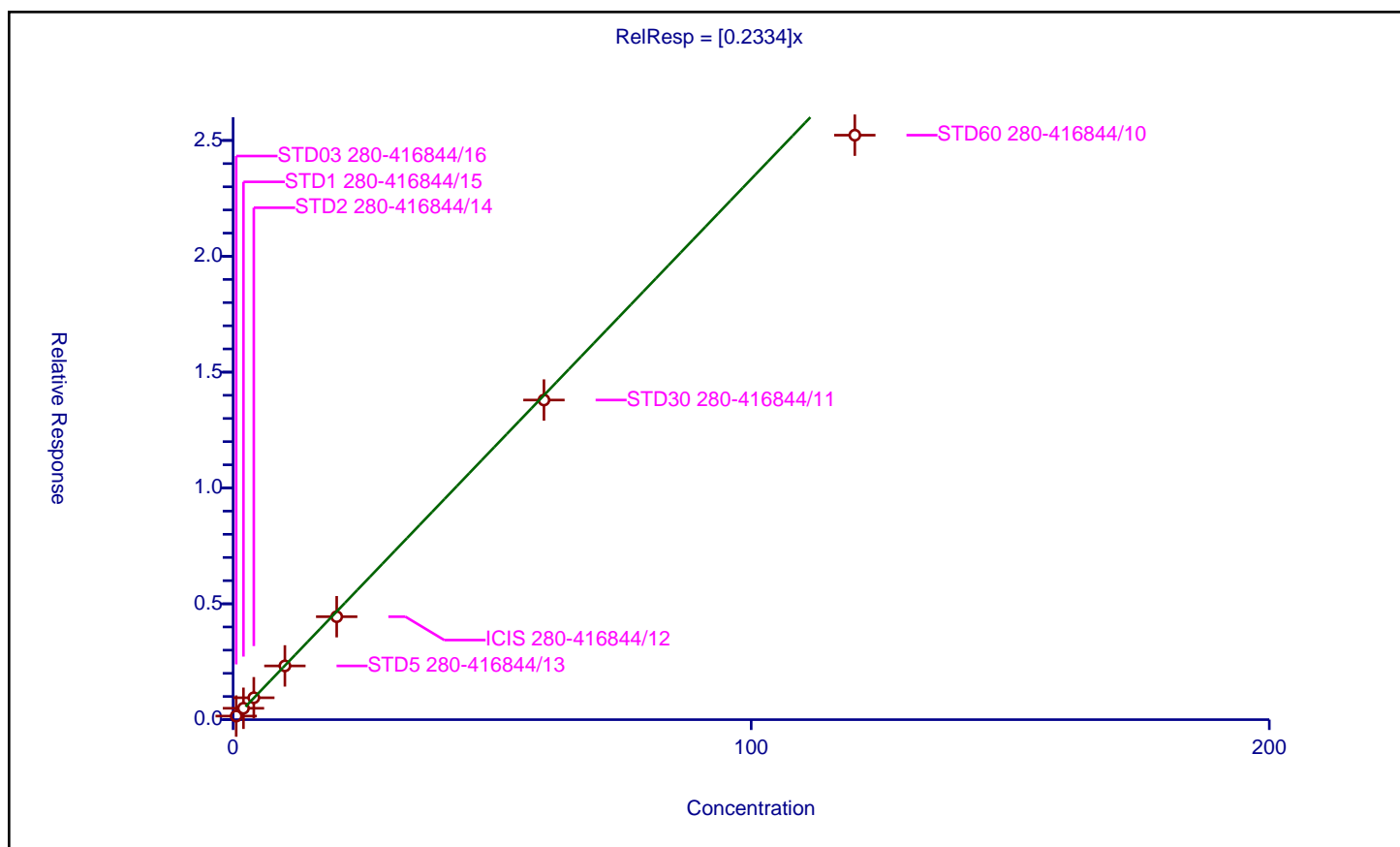
### Curve Coefficients

Intercept: 0  
 Slope: 0.2334

### Error Coefficients

Standard Error: 969000  
 Relative Standard Error: 6.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.6	0.154178	12.5	1034682.0	0.256963	Y
2	STD1 280-416844/15	2.0	0.491559	12.5	1019333.0	0.24578	Y
3	STD2 280-416844/14	4.0	0.945717	12.5	1080358.0	0.236429	Y
4	STD5 280-416844/13	10.0	2.319528	12.5	1050580.0	0.231953	Y
5	ICIS 280-416844/12	20.0	4.443803	12.5	1075720.0	0.22219	Y
6	STD30 280-416844/11	60.0	13.794882	12.5	984385.0	0.229915	Y
7	STD60 280-416844/10	120.0	25.227559	12.5	1022372.0	0.21023	Y





## Calibration

/ 1,1-Dichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

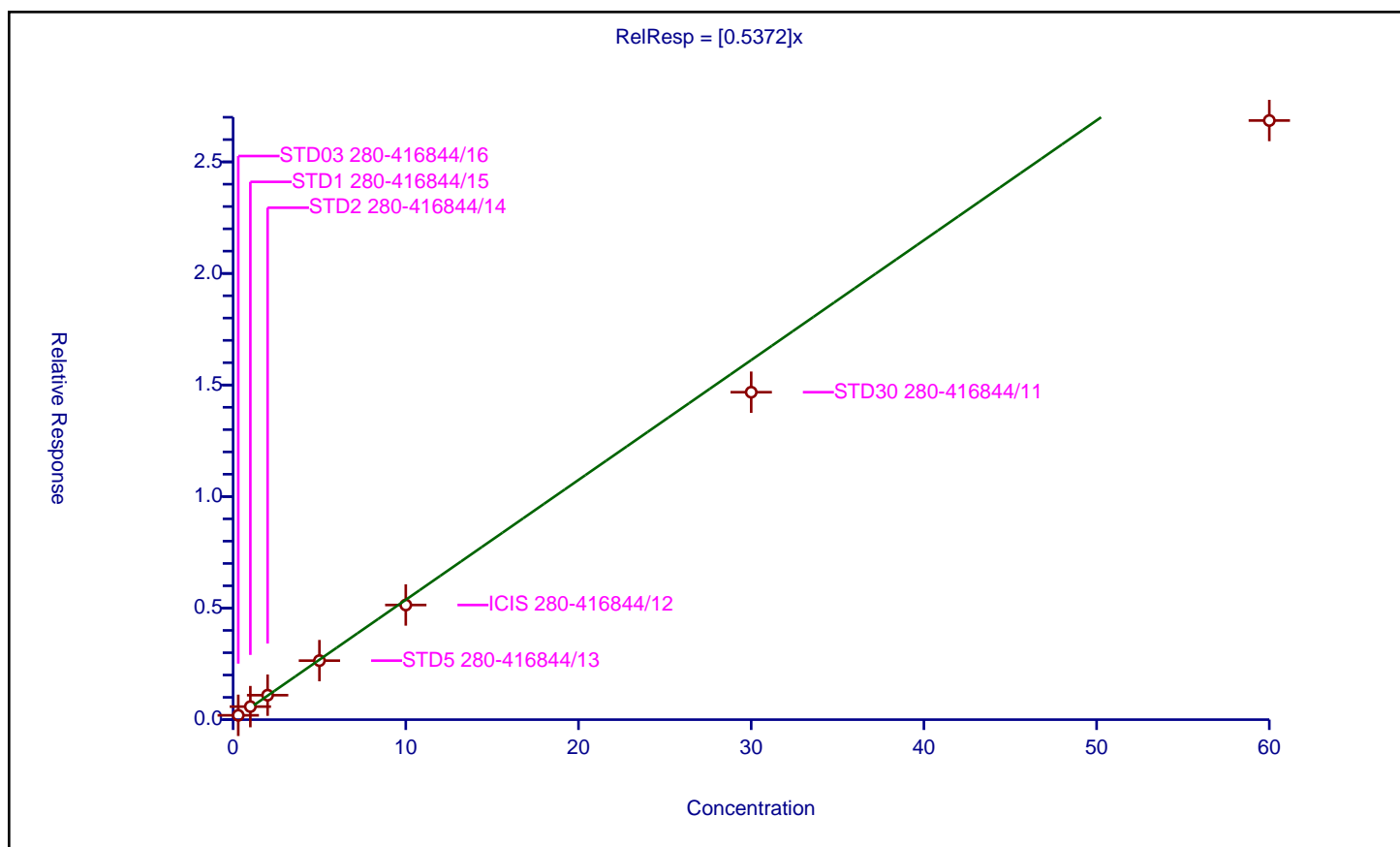
### Curve Coefficients

Intercept: 0  
 Slope: 0.5372

### Error Coefficients

Standard Error: 1030000  
 Relative Standard Error: 12.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.194492	12.5	1034682.0	0.648307	Y
2	STD1 280-416844/15	1.0	0.584598	12.5	1019333.0	0.584598	Y
3	STD2 280-416844/14	2.0	1.096037	12.5	1080358.0	0.548019	Y
4	STD5 280-416844/13	5.0	2.644741	12.5	1050580.0	0.528948	Y
5	ICIS 280-416844/12	10.0	5.138512	12.5	1075720.0	0.513851	Y
6	STD30 280-416844/11	30.0	14.676727	12.5	984385.0	0.489224	Y
7	STD60 280-416844/10	60.0	26.854511	12.5	1022372.0	0.447575	Y





## Calibration

/ 2-Butanone (MEK)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

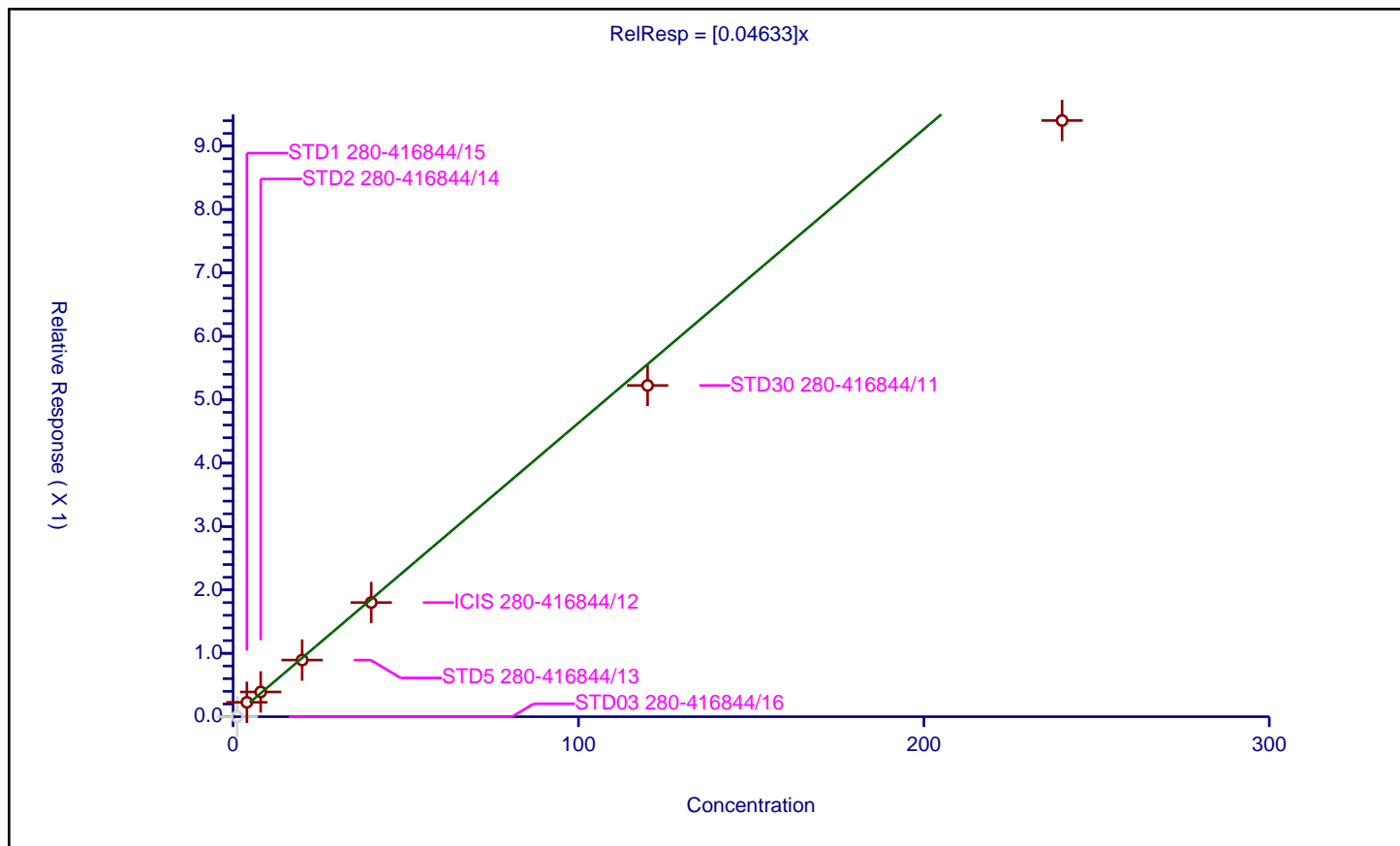
### Curve Coefficients

Intercept: 0  
 Slope: 0.04633

### Error Coefficients

Standard Error: 398000  
 Relative Standard Error: 12.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.970

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	4.0	0.227109	12.5	1019333.0	0.056777	Y
3	STD2 280-416844/14	8.0	0.390461	12.5	1080358.0	0.048808	Y
4	STD5 280-416844/13	20.0	0.89353	12.5	1050580.0	0.044677	Y
5	ICIS 280-416844/12	40.0	1.800457	12.5	1075720.0	0.045011	Y
6	STD30 280-416844/11	120.0	5.224353	12.5	984385.0	0.043536	Y
7	STD60 280-416844/10	240.0	9.402644	12.5	1022372.0	0.039178	Y





## Calibration

/ sec-Butyl Alcohol

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

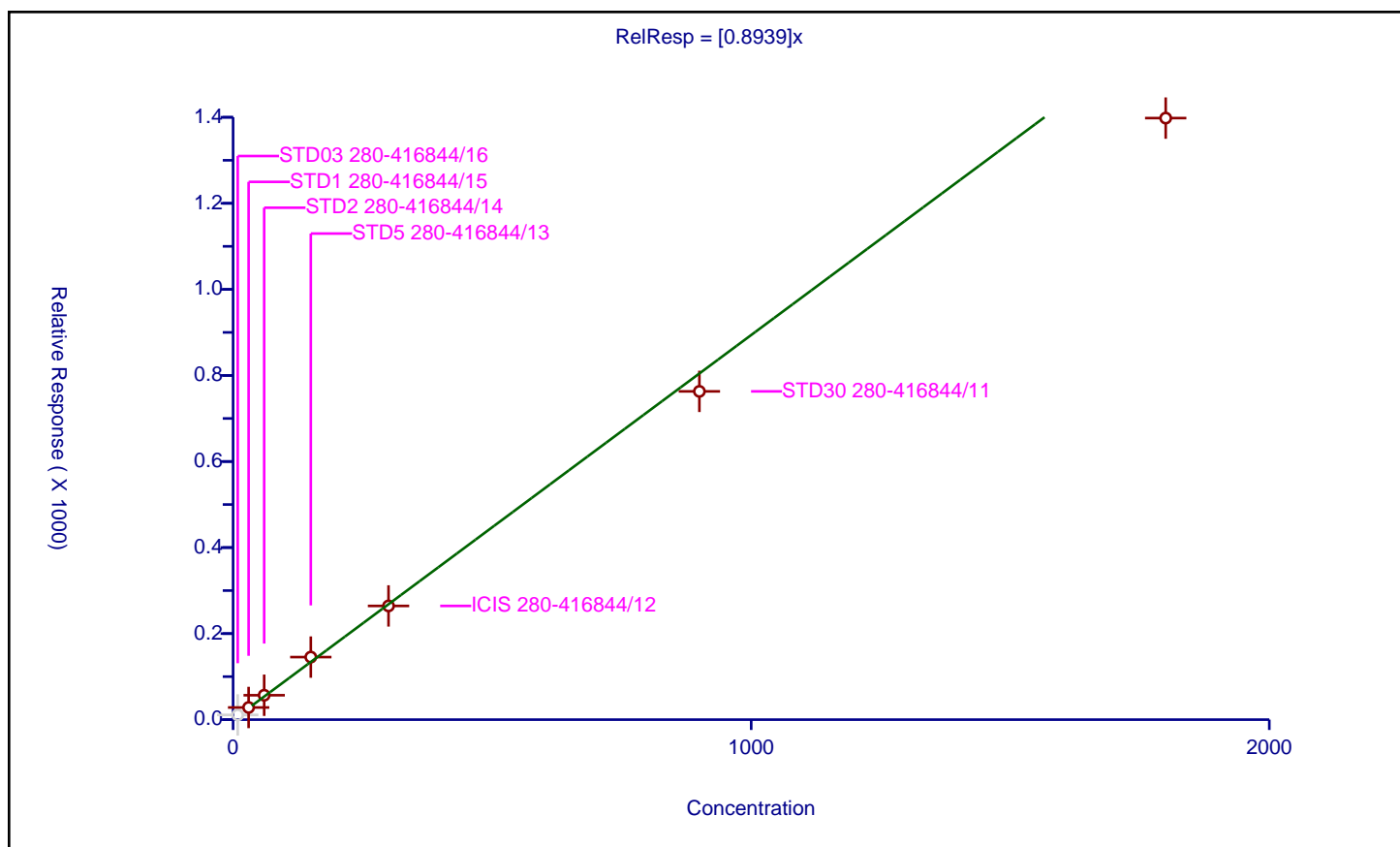
## Curve Coefficients

Intercept: 0  
Slope: 0.8939

## Error Coefficients

Standard Error: 468000  
Relative Standard Error: 8.2  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	9.0	10.991453	250.0	155257.0	1.221273	N
2	STD1 280-416844/15	30.0	28.288203	250.0	147535.0	0.94294	Y
3	STD2 280-416844/14	60.0	56.758015	250.0	157894.0	0.945967	Y
4	STD5 280-416844/13	150.0	145.387316	250.0	148677.0	0.969249	Y
5	ICIS 280-416844/12	300.0	264.287278	250.0	164412.0	0.880958	Y
6	STD30 280-416844/11	900.0	762.965401	250.0	159540.0	0.847739	Y
7	STD60 280-416844/10	1800.0	1398.07888	250.0	162145.0	0.77671	Y





## Calibration

/ 2,2-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

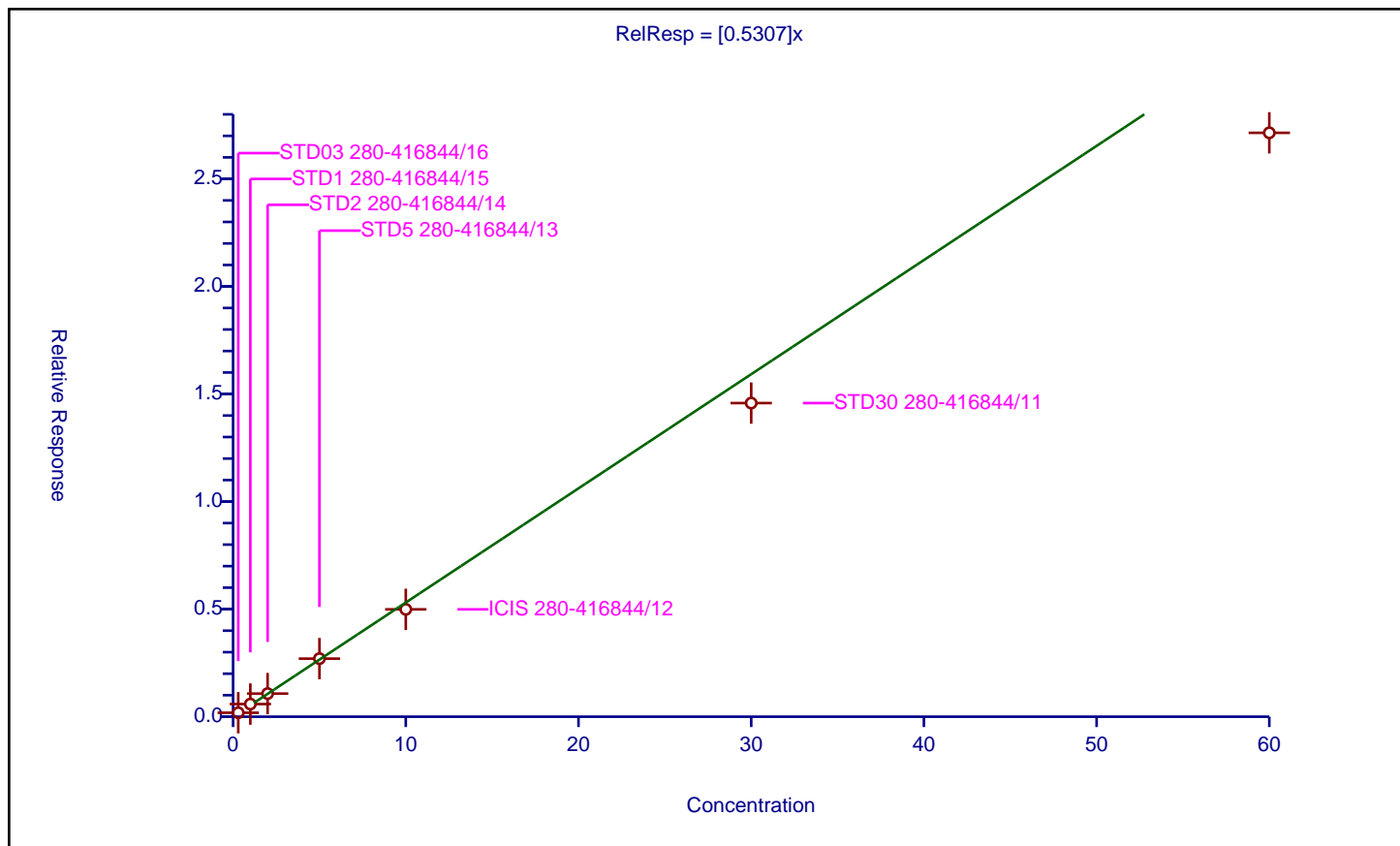
### Curve Coefficients

Intercept: 0  
 Slope: 0.5307

### Error Coefficients

Standard Error: 1040000  
 Relative Standard Error: 10.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.183861	12.5	1034682.0	0.612869	Y
2	STD1 280-416844/15	1.0	0.587762	12.5	1019333.0	0.587762	Y
3	STD2 280-416844/14	2.0	1.074007	12.5	1080358.0	0.537004	Y
4	STD5 280-416844/13	5.0	2.699354	12.5	1050580.0	0.539871	Y
5	ICIS 280-416844/12	10.0	4.990007	12.5	1075720.0	0.499001	Y
6	STD30 280-416844/11	30.0	14.579115	12.5	984385.0	0.485971	Y
7	STD60 280-416844/10	60.0	27.142151	12.5	1022372.0	0.452369	Y





## Calibration

/ cis-1,2-Dichloroethene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

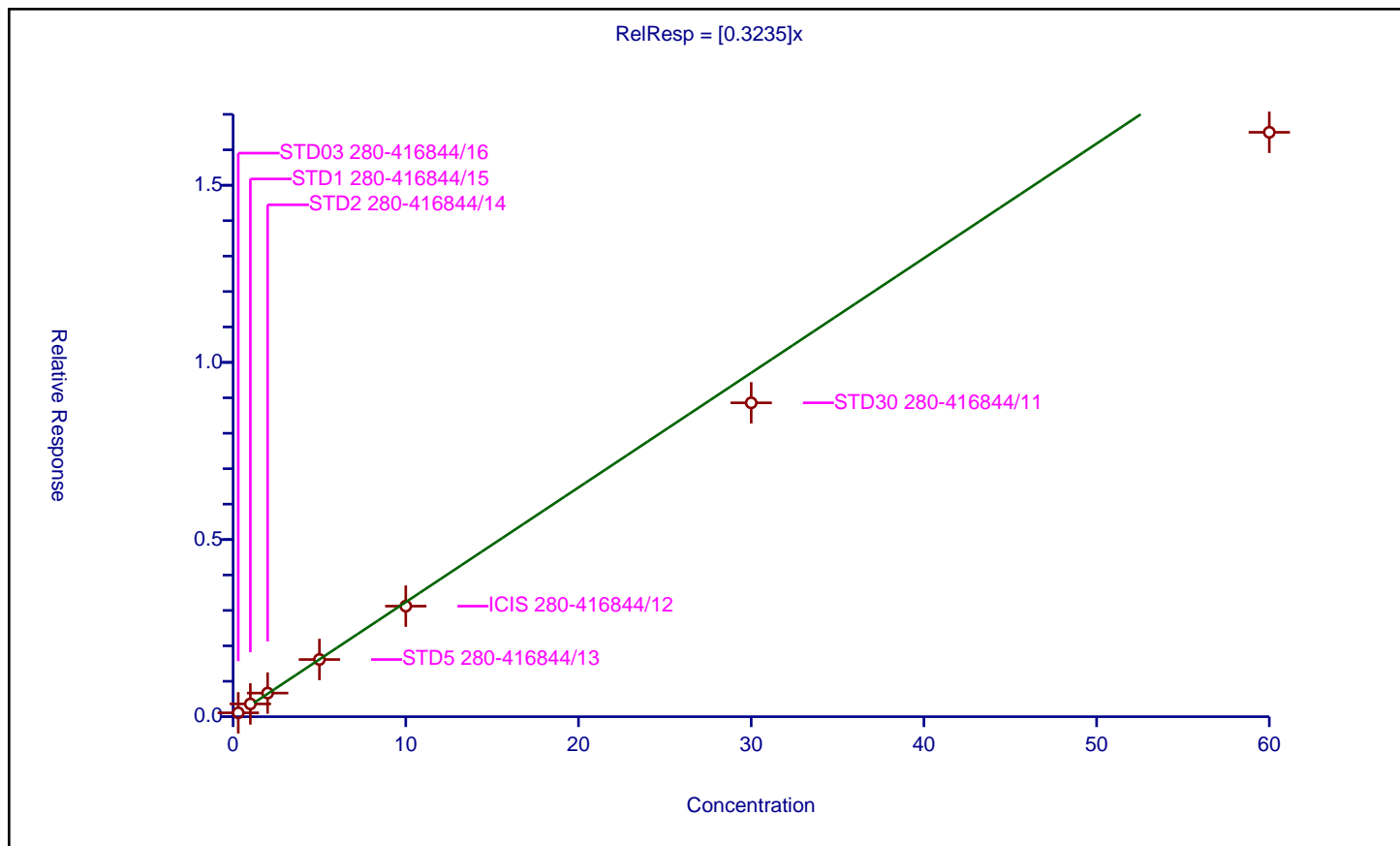
## Curve Coefficients

Intercept: 0  
Slope: 0.3235

## Error Coefficients

Standard Error: 633000  
Relative Standard Error: 10.2  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.10943	12.5	1034682.0	0.364766	Y
2	STD1 280-416844/15	1.0	0.361045	12.5	1019333.0	0.361045	Y
3	STD2 280-416844/14	2.0	0.666943	12.5	1080358.0	0.333472	Y
4	STD5 280-416844/13	5.0	1.614561	12.5	1050580.0	0.322912	Y
5	ICIS 280-416844/12	10.0	3.120596	12.5	1075720.0	0.31206	Y
6	STD30 280-416844/11	30.0	8.85864	12.5	984385.0	0.295288	Y
7	STD60 280-416844/10	60.0	16.494436	12.5	1022372.0	0.274907	Y





# Calibration

/ Tetrahydrofuran

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

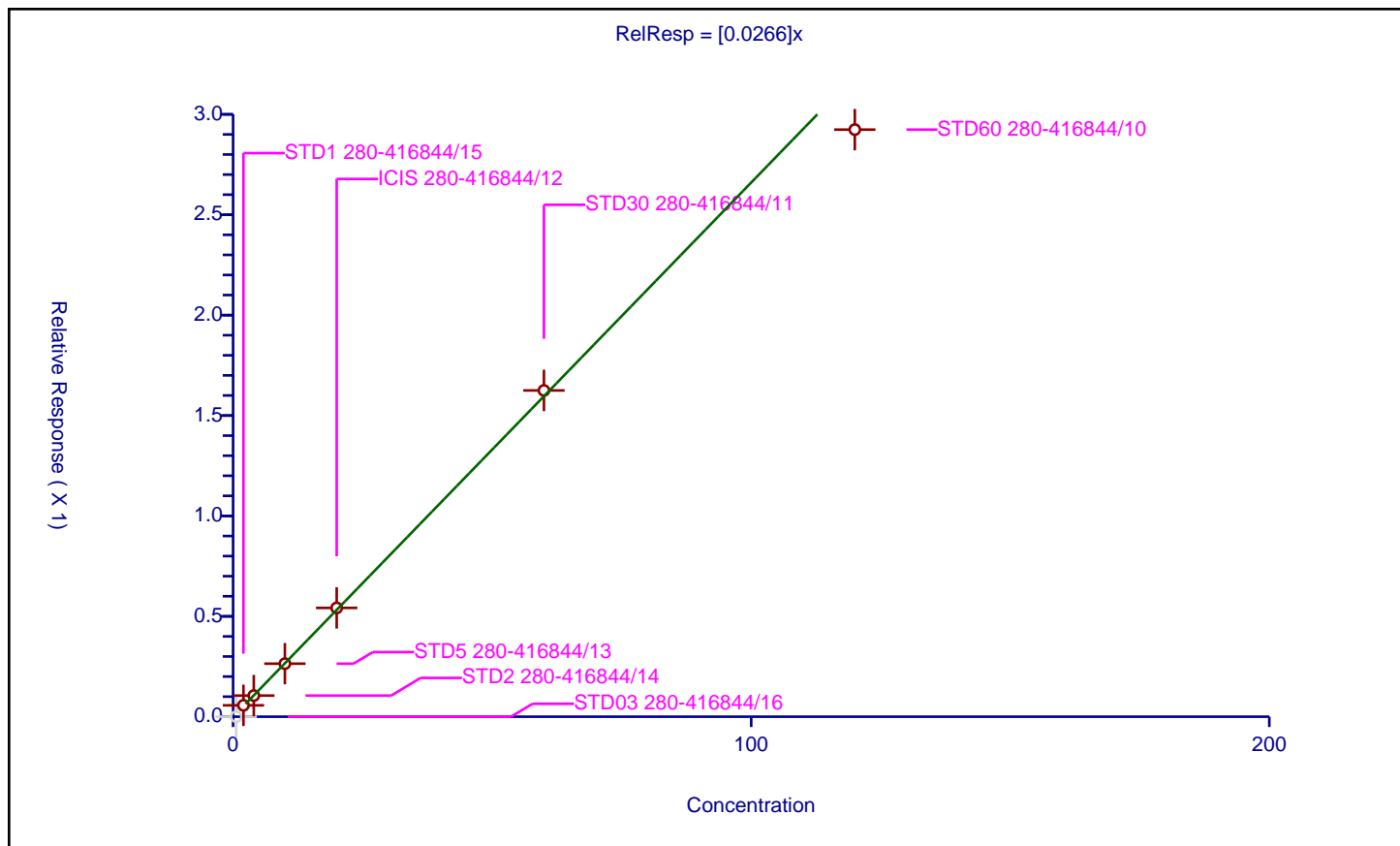
## Curve Coefficients

Intercept: 0  
Slope: 0.0266

## Error Coefficients

Standard Error: 124000  
Relative Standard Error: 5.0  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.6	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	2.0	0.056716	12.5	1019333.0	0.028358	Y
3	STD2 280-416844/14	4.0	0.105185	12.5	1080358.0	0.026296	Y
4	STD5 280-416844/13	10.0	0.264223	12.5	1050580.0	0.026422	Y
5	ICIS 280-416844/12	20.0	0.54187	12.5	1075720.0	0.027093	Y
6	STD30 280-416844/11	60.0	1.624949	12.5	984385.0	0.027082	Y
7	STD60 280-416844/10	120.0	2.924009	12.5	1022372.0	0.024367	Y





## Calibration

/ Chlorobromomethane

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

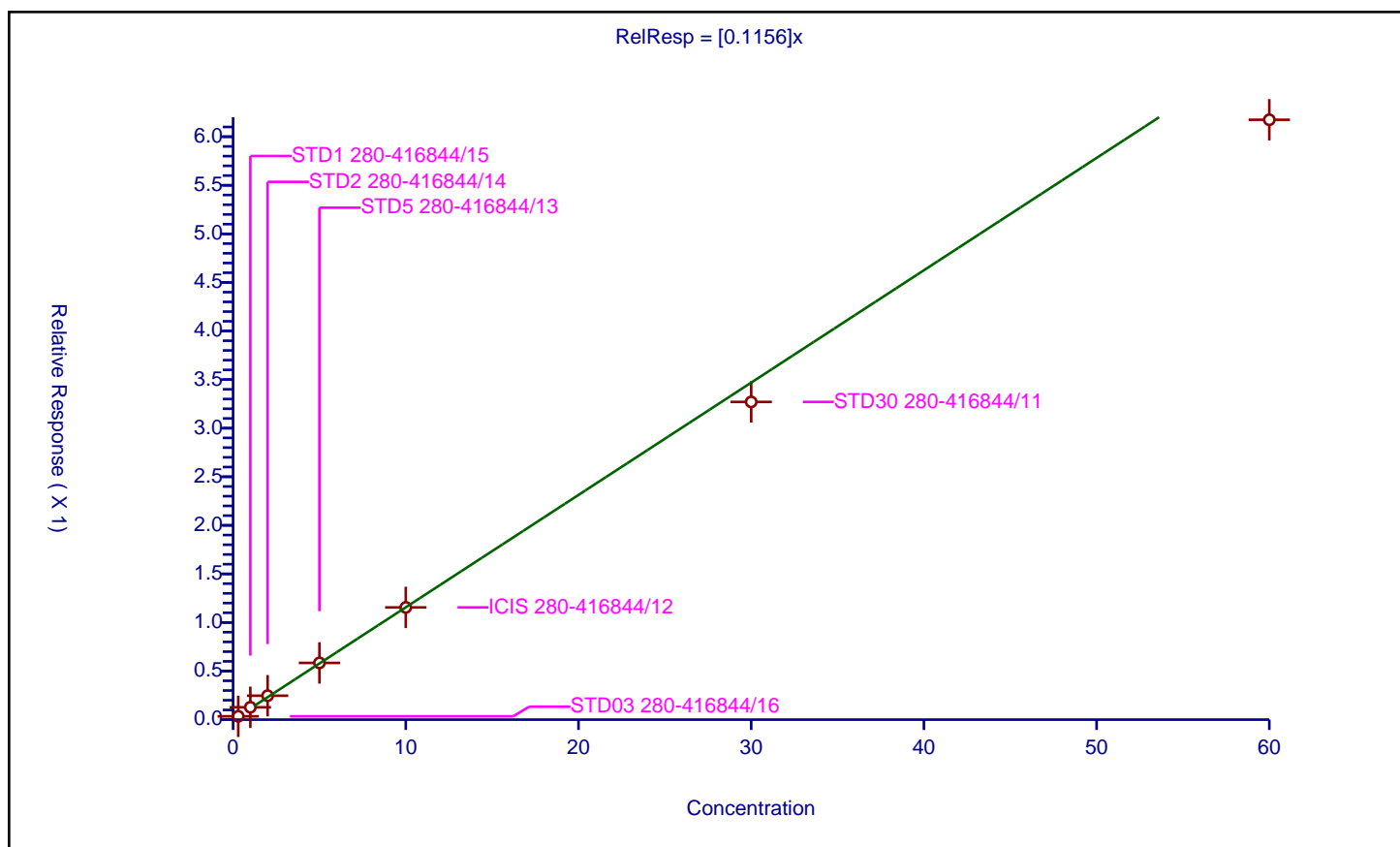
## Curve Coefficients

Intercept: 0  
Slope: 0.1156

## Error Coefficients

Standard Error: 236000  
Relative Standard Error: 7.1  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.034419	12.5	1034682.0	0.114729	Y
2	STD1 280-416844/15	1.0	0.127301	12.5	1019333.0	0.127301	Y
3	STD2 280-416844/14	2.0	0.246354	12.5	1080358.0	0.123177	Y
4	STD5 280-416844/13	5.0	0.584023	12.5	1050580.0	0.116805	Y
5	ICIS 280-416844/12	10.0	1.15511	12.5	1075720.0	0.115511	Y
6	STD30 280-416844/11	30.0	3.270303	12.5	984385.0	0.10901	Y
7	STD60 280-416844/10	60.0	6.17433	12.5	1022372.0	0.102906	Y





# Calibration

/ Chloroform

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

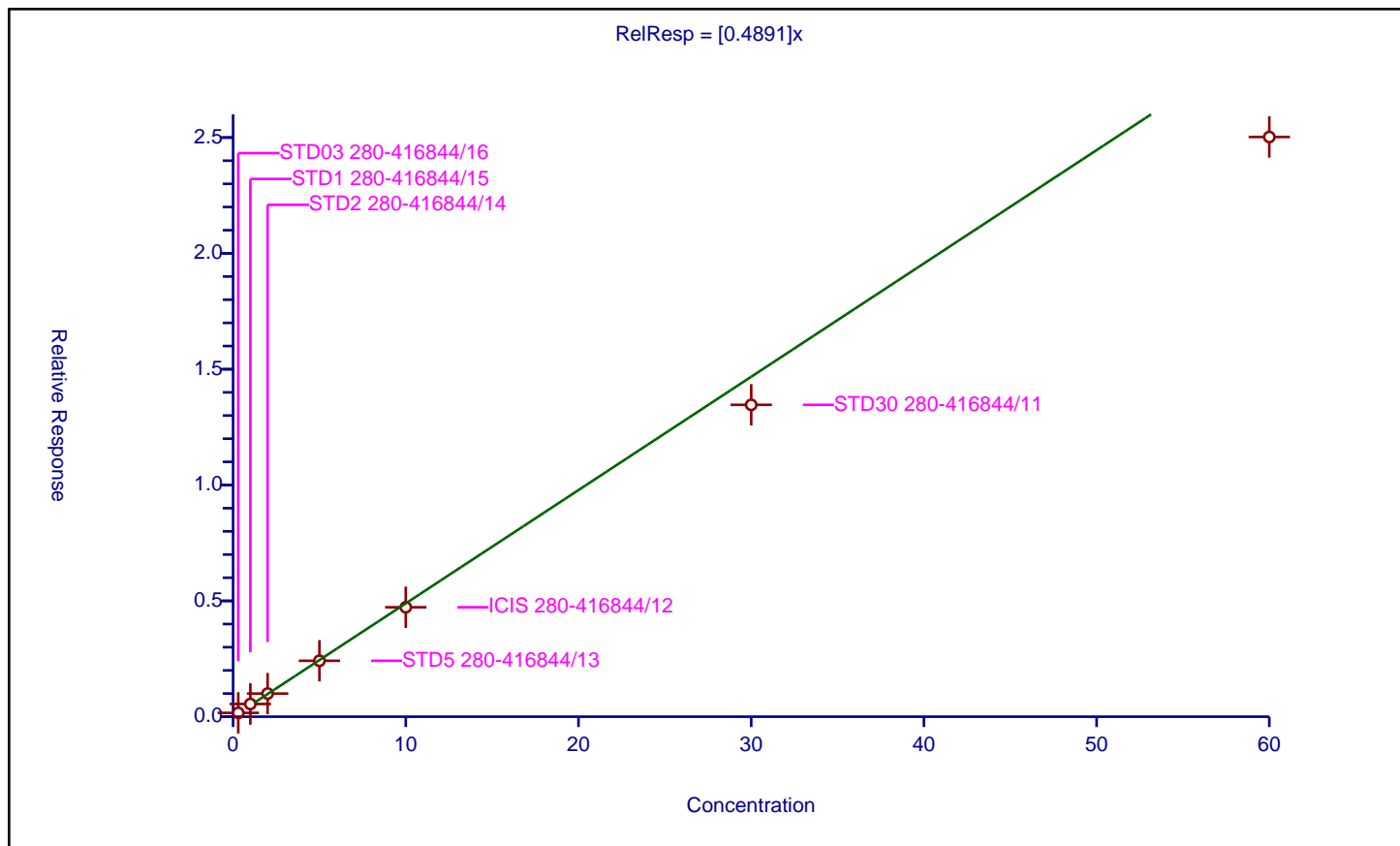
## Curve Coefficients

Intercept: 0  
 Slope: 0.4891

## Error Coefficients

Standard Error: 960000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.166138	12.5	1034682.0	0.553793	Y
2	STD1 280-416844/15	1.0	0.549796	12.5	1019333.0	0.549796	Y
3	STD2 280-416844/14	2.0	0.998488	12.5	1080358.0	0.499244	Y
4	STD5 280-416844/13	5.0	2.414452	12.5	1050580.0	0.48289	Y
5	ICIS 280-416844/12	10.0	4.724382	12.5	1075720.0	0.472438	Y
6	STD30 280-416844/11	30.0	13.461705	12.5	984385.0	0.448723	Y
7	STD60 280-416844/10	60.0	25.023145	12.5	1022372.0	0.417052	Y





# Calibration

/ Dibromofluoromethane (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

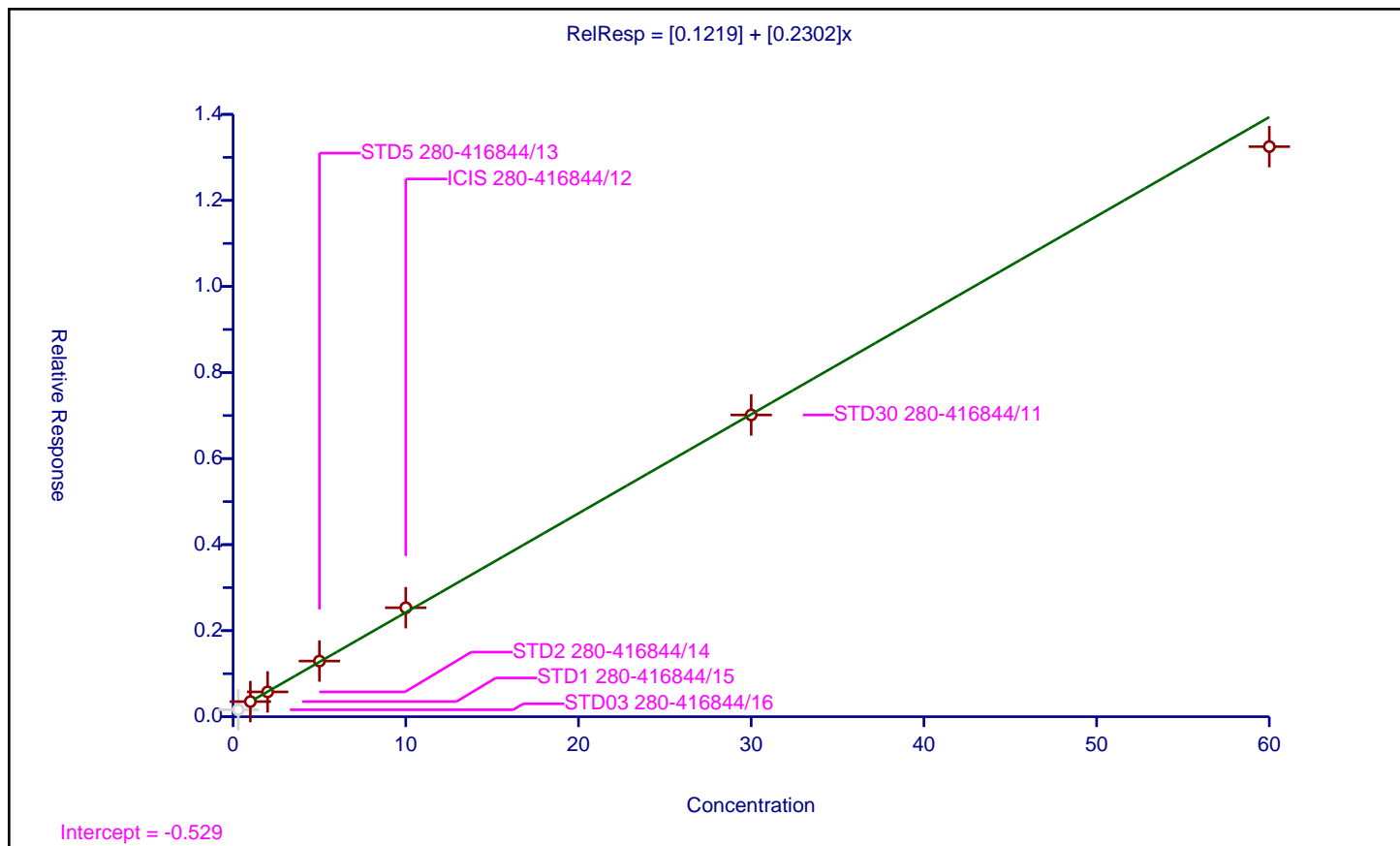
## Curve Coefficients

Intercept: 0.1219  
 Slope: 0.2302

## Error Coefficients

Standard Error: 621000  
 Relative Standard Error: 3.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.161197	12.5	1034682.0	0.537323	N
2	STD1 280-416844/15	1.0	0.351737	12.5	1019333.0	0.351737	Y
3	STD2 280-416844/14	2.0	0.576962	12.5	1080358.0	0.288481	Y
4	STD5 280-416844/13	5.0	1.293345	12.5	1050580.0	0.258669	Y
5	ICIS 280-416844/12	10.0	2.533385	12.5	1075720.0	0.253338	Y
6	STD30 280-416844/11	30.0	7.013249	12.5	984385.0	0.233775	Y
7	STD60 280-416844/10	60.0	13.249996	12.5	1022372.0	0.220833	Y





## Calibration

/ 1,1,1-Trichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

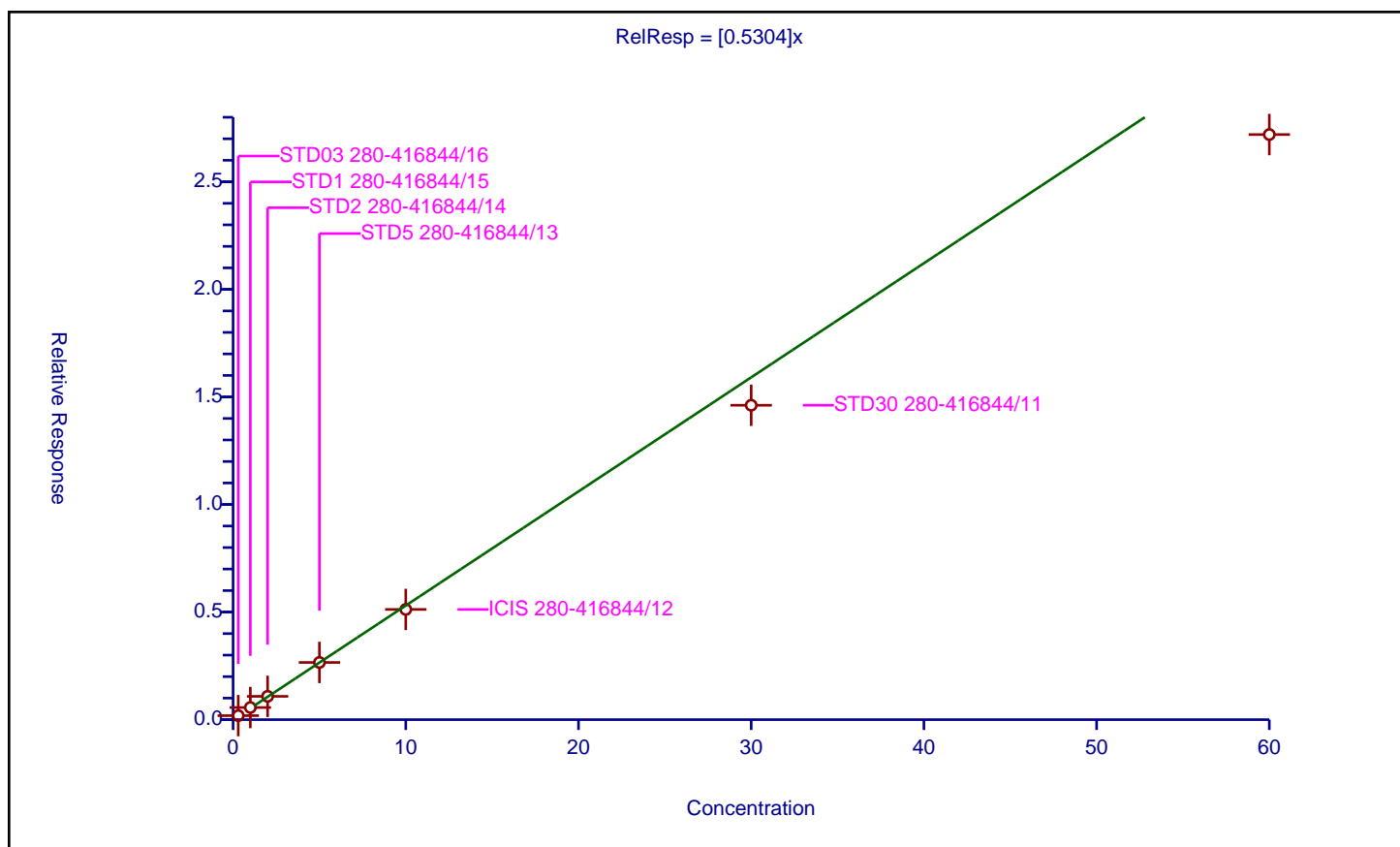
### Curve Coefficients

Intercept: 0  
 Slope: 0.5304

### Error Coefficients

Standard Error: 1040000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.186869	12.5	1034682.0	0.622897	Y
2	STD1 280-416844/15	1.0	0.564217	12.5	1019333.0	0.564217	Y
3	STD2 280-416844/14	2.0	1.082708	12.5	1080358.0	0.541354	Y
4	STD5 280-416844/13	5.0	2.657258	12.5	1050580.0	0.531452	Y
5	ICIS 280-416844/12	10.0	5.123324	12.5	1075720.0	0.512332	Y
6	STD30 280-416844/11	30.0	14.613375	12.5	984385.0	0.487113	Y
7	STD60 280-416844/10	60.0	27.196375	12.5	1022372.0	0.453273	Y





# Calibration

/ Isobutyl alcohol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

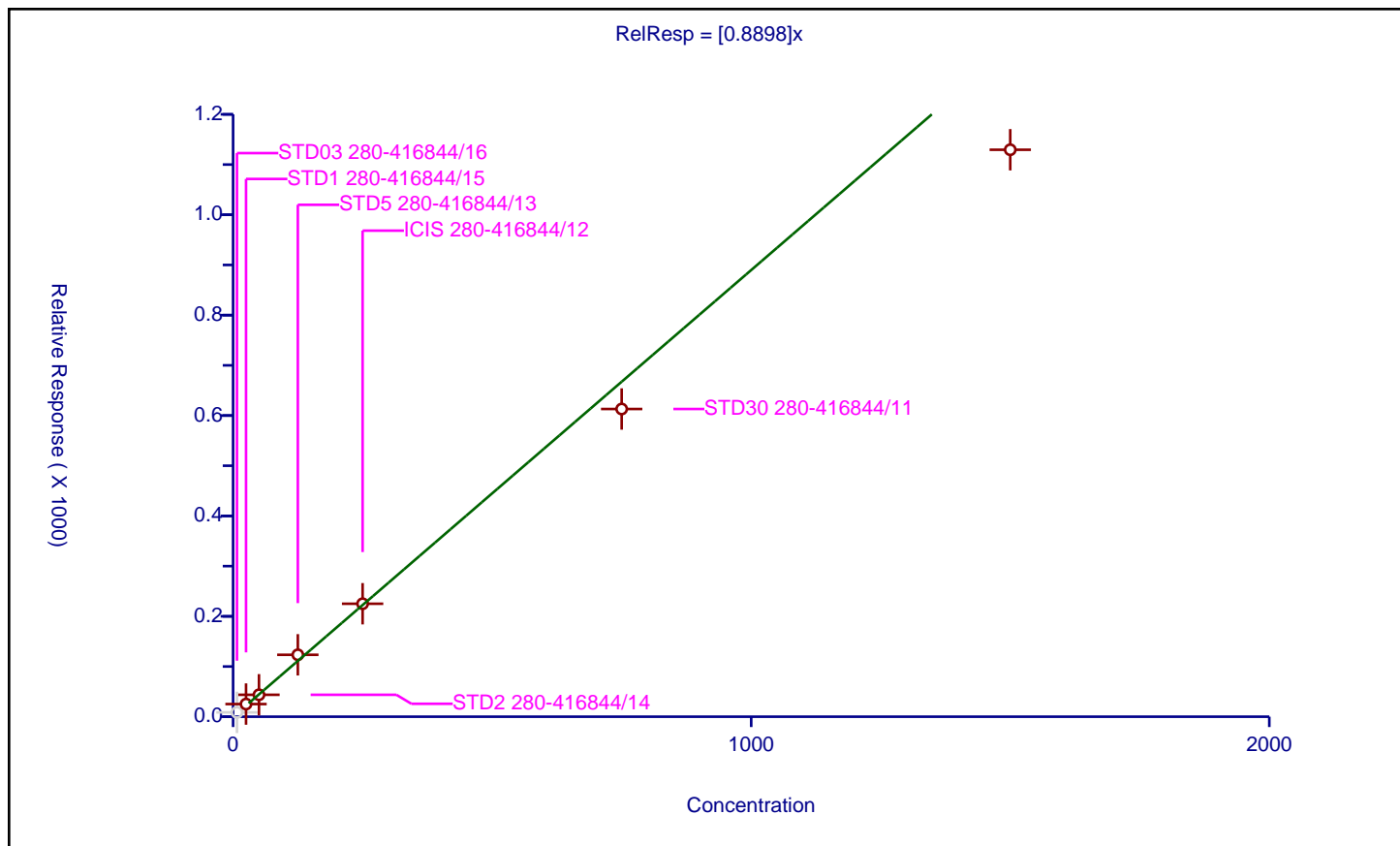
## Curve Coefficients

Intercept: 0  
 Slope: 0.8898

## Error Coefficients

Standard Error: 378000  
 Relative Standard Error: 11.0  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	7.5	8.621189	250.0	155257.0	1.149492	N
2	STD1 280-416844/15	25.0	25.205883	250.0	147535.0	1.008235	Y
3	STD2 280-416844/14	50.0	43.66537	250.0	157894.0	0.873307	Y
4	STD5 280-416844/13	125.0	123.327751	250.0	148677.0	0.986622	Y
5	ICIS 280-416844/12	250.0	225.071771	250.0	164412.0	0.900287	Y
6	STD30 280-416844/11	750.0	613.026514	250.0	159540.0	0.817369	Y
7	STD60 280-416844/10	1500.0	1129.502914	250.0	162145.0	0.753002	Y





## Calibration

/ Cyclohexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

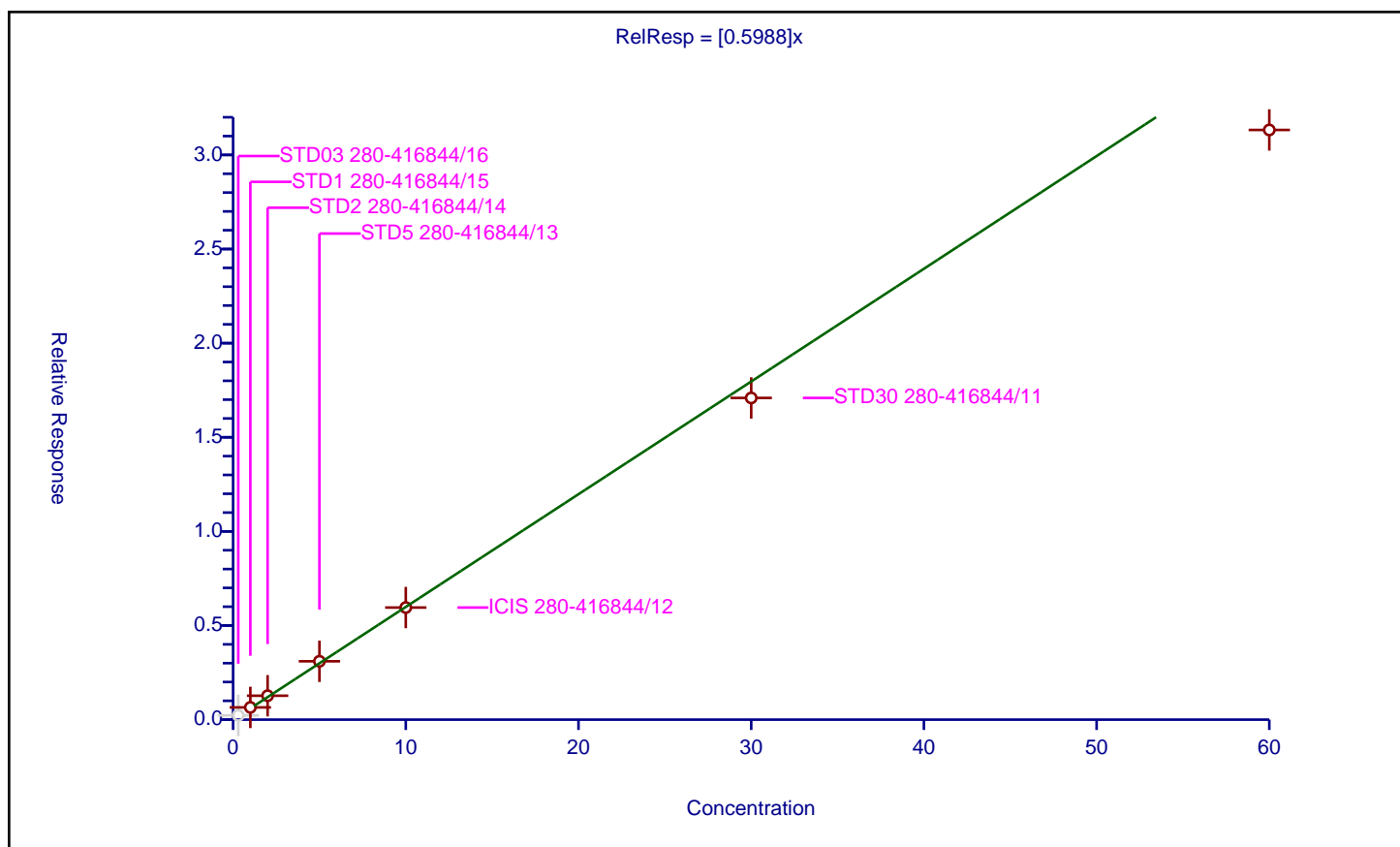
### Curve Coefficients

Intercept: 0  
 Slope: 0.5988

### Error Coefficients

Standard Error: 1320000  
 Relative Standard Error: 7.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.225951	12.5	1034682.0	0.75317	N
2	STD1 280-416844/15	1.0	0.650021	12.5	1019333.0	0.650021	Y
3	STD2 280-416844/14	2.0	1.270262	12.5	1080358.0	0.635131	Y
4	STD5 280-416844/13	5.0	3.10112	12.5	1050580.0	0.620224	Y
5	ICIS 280-416844/12	10.0	5.955232	12.5	1075720.0	0.595523	Y
6	STD30 280-416844/11	30.0	17.089477	12.5	984385.0	0.569649	Y
7	STD60 280-416844/10	60.0	31.326831	12.5	1022372.0	0.522114	Y





## Calibration

/ 1,1-Dichloropropene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

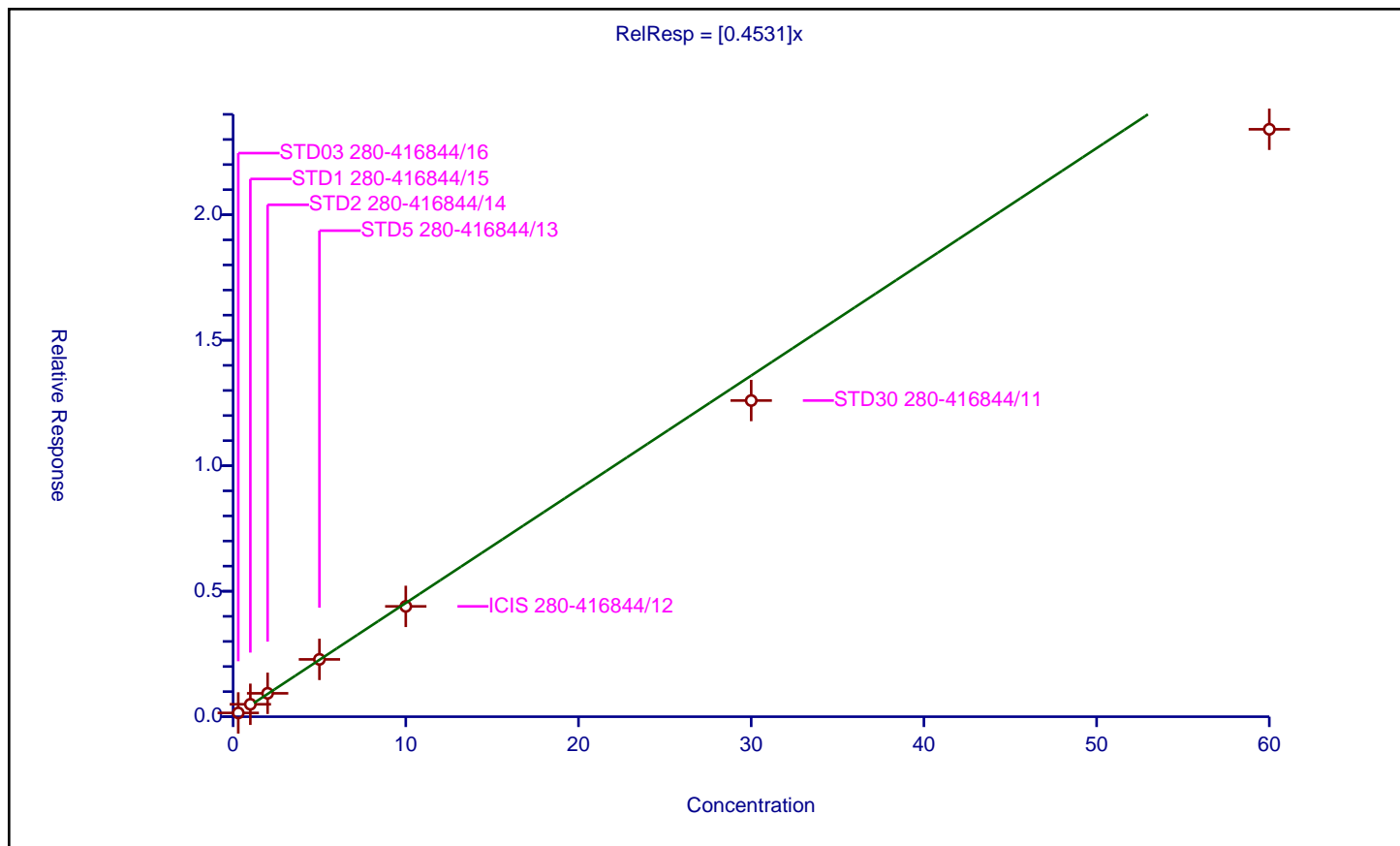
### Curve Coefficients

Intercept: 0  
 Slope: 0.4531

### Error Coefficients

Standard Error: 898000  
 Relative Standard Error: 8.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.150952	12.5	1034682.0	0.503174	Y
2	STD1 280-416844/15	1.0	0.495447	12.5	1019333.0	0.495447	Y
3	STD2 280-416844/14	2.0	0.932573	12.5	1080358.0	0.466286	Y
4	STD5 280-416844/13	5.0	2.284548	12.5	1050580.0	0.45691	Y
5	ICIS 280-416844/12	10.0	4.396137	12.5	1075720.0	0.439614	Y
6	STD30 280-416844/11	30.0	12.598374	12.5	984385.0	0.419946	Y
7	STD60 280-416844/10	60.0	23.404886	12.5	1022372.0	0.390081	Y





# Calibration

/ Carbon tetrachloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

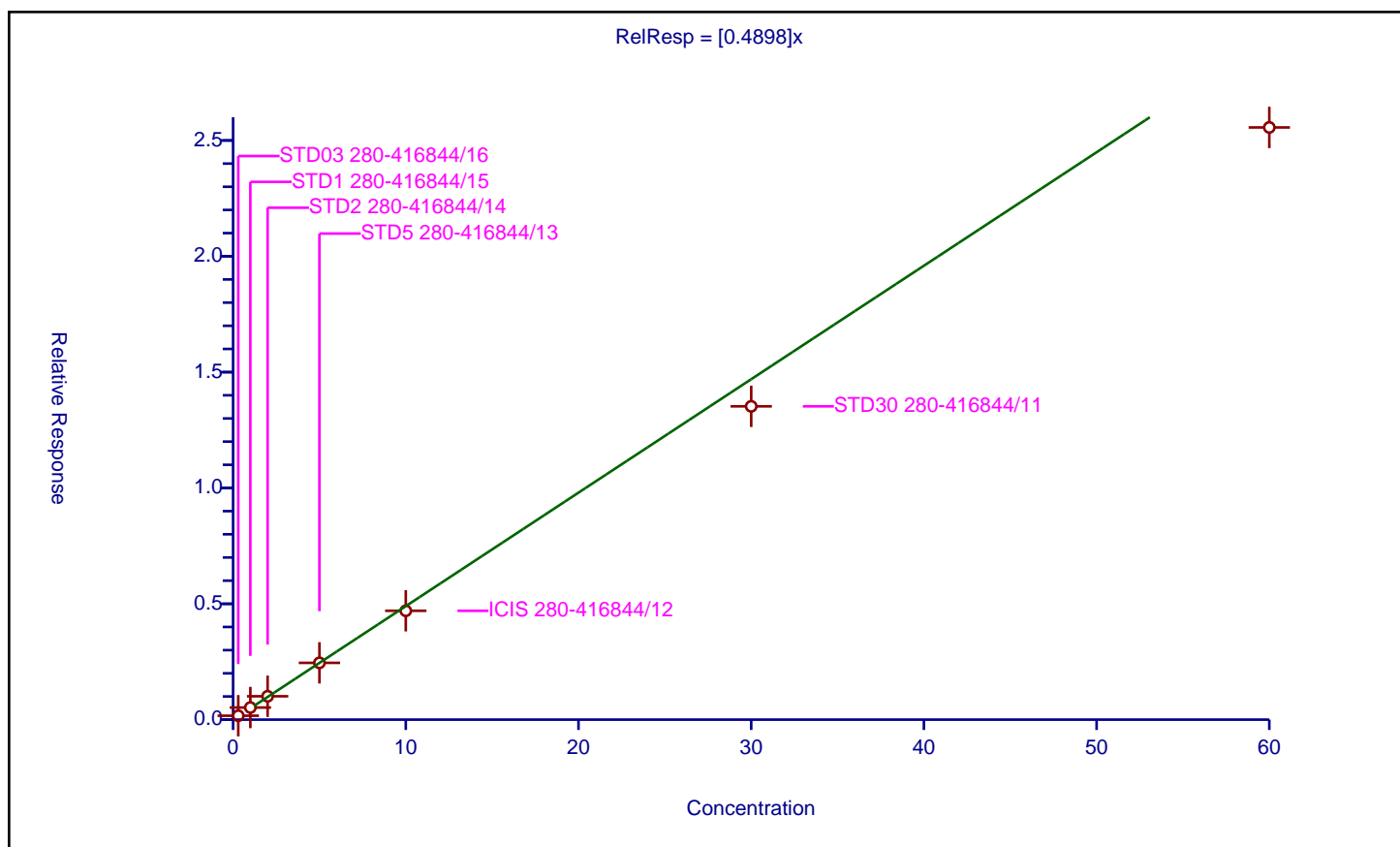
## Curve Coefficients

Intercept: 0  
 Slope: 0.4898

## Error Coefficients

Standard Error: 976000  
 Relative Standard Error: 9.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.169364	12.5	1034682.0	0.564545	Y
2	STD1 280-416844/15	1.0	0.522572	12.5	1019333.0	0.522572	Y
3	STD2 280-416844/14	2.0	1.009179	12.5	1080358.0	0.50459	Y
4	STD5 280-416844/13	5.0	2.45167	12.5	1050580.0	0.490334	Y
5	ICIS 280-416844/12	10.0	4.698551	12.5	1075720.0	0.469855	Y
6	STD30 280-416844/11	30.0	13.523317	12.5	984385.0	0.450777	Y
7	STD60 280-416844/10	60.0	25.560975	12.5	1022372.0	0.426016	Y





## Calibration

/ 1,2-Dichloroethane-d4 (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

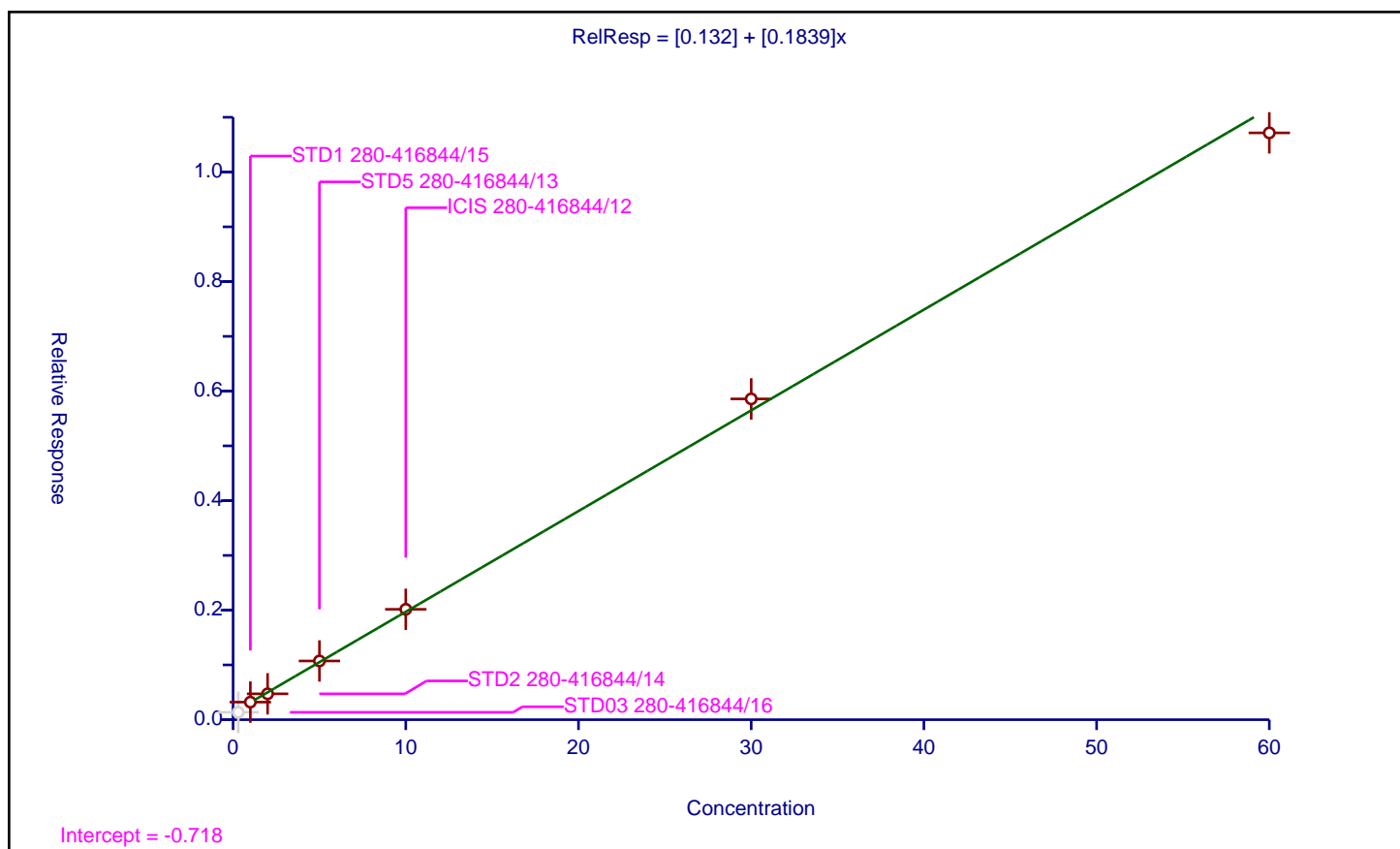
### Curve Coefficients

Intercept: 0.132  
 Slope: 0.1839

### Error Coefficients

Standard Error: 505000  
 Relative Standard Error: 5.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.135174	12.5	1034682.0	0.450581	N
2	STD1 280-416844/15	1.0	0.321301	12.5	1019333.0	0.321301	Y
3	STD2 280-416844/14	2.0	0.472575	12.5	1080358.0	0.236287	Y
4	STD5 280-416844/13	5.0	1.072384	12.5	1050580.0	0.214477	Y
5	ICIS 280-416844/12	10.0	2.015813	12.5	1075720.0	0.201581	Y
6	STD30 280-416844/11	30.0	5.857718	12.5	984385.0	0.195257	Y
7	STD60 280-416844/10	60.0	10.715143	12.5	1022372.0	0.178586	Y





## Calibration

/ n-Heptane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

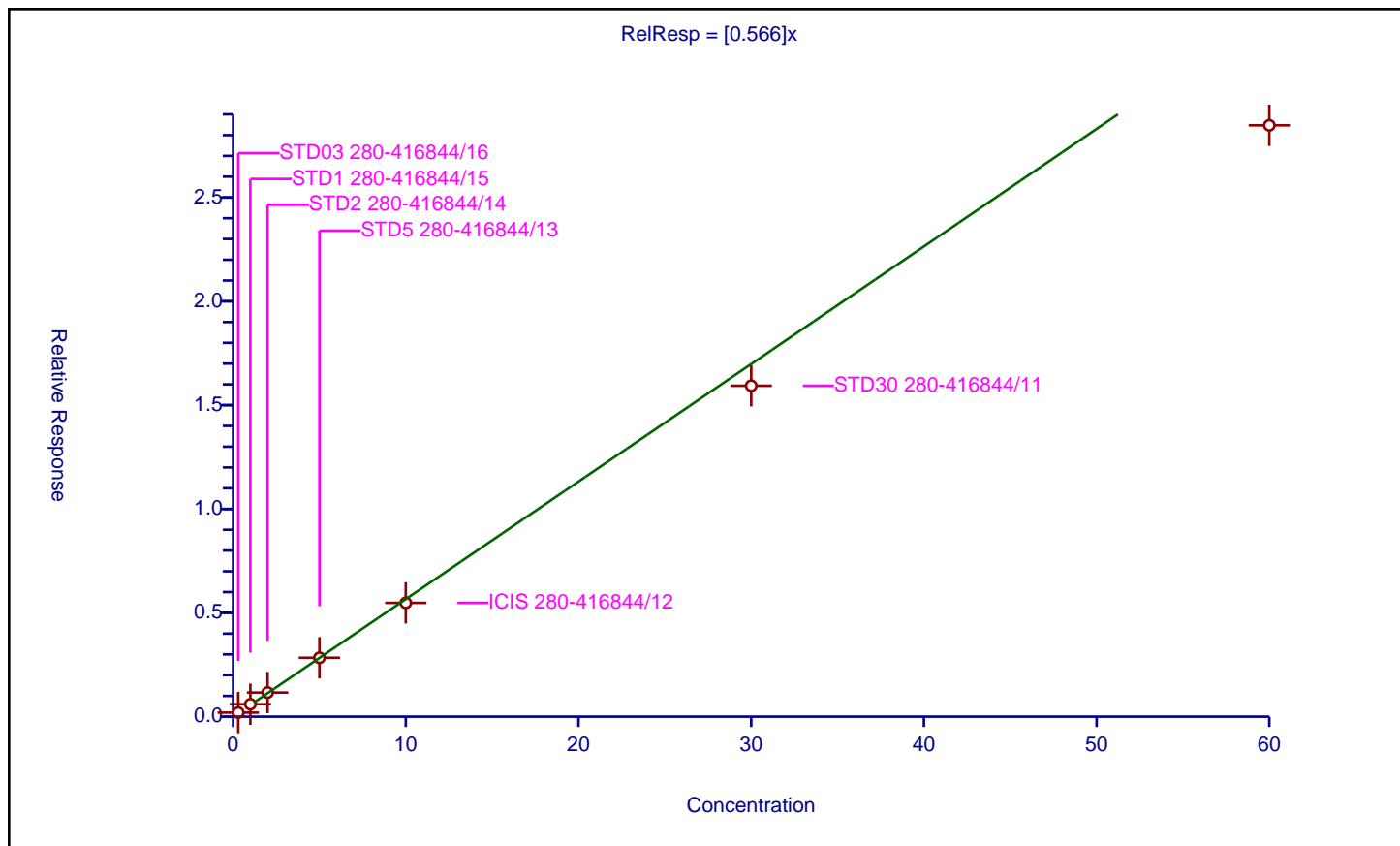
### Curve Coefficients

Intercept: 0  
 Slope: 0.566

### Error Coefficients

Standard Error: 1100000  
 Relative Standard Error: 10.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.197802	12.5	1034682.0	0.659341	Y
2	STD1 280-416844/15	1.0	0.600589	12.5	1019333.0	0.600589	Y
3	STD2 280-416844/14	2.0	1.162323	12.5	1080358.0	0.581162	Y
4	STD5 280-416844/13	5.0	2.836326	12.5	1050580.0	0.567265	Y
5	ICIS 280-416844/12	10.0	5.481015	12.5	1075720.0	0.548102	Y
6	STD30 280-416844/11	30.0	15.934213	12.5	984385.0	0.53114	Y
7	STD60 280-416844/10	60.0	28.47332	12.5	1022372.0	0.474555	Y





## Calibration

/ Benzene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

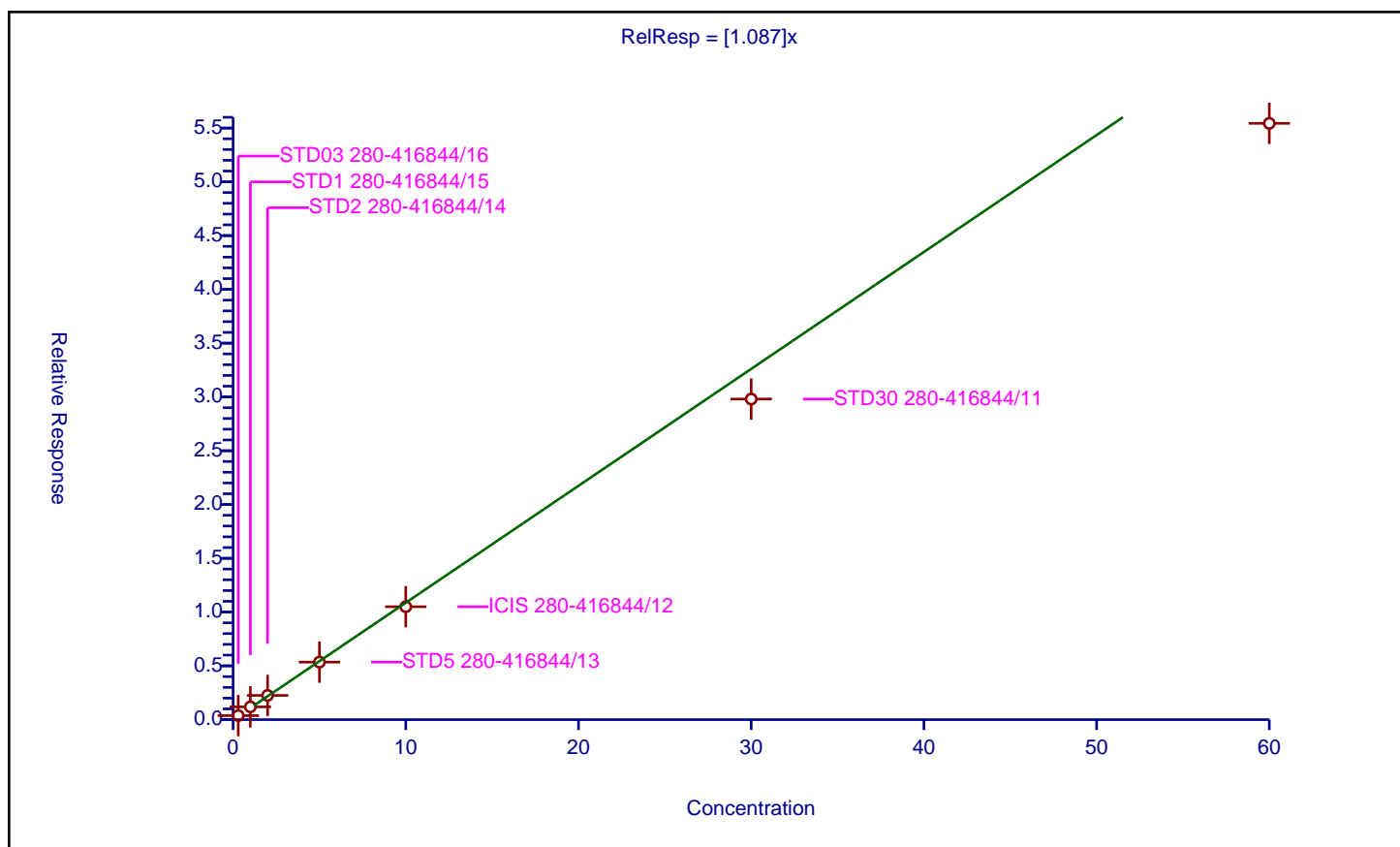
## Curve Coefficients

Intercept: 0  
Slope: 1.087

## Error Coefficients

Standard Error: 2130000  
Relative Standard Error: 10.5  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.376855	12.5	1034682.0	1.256183	Y
2	STD1 280-416844/15	1.0	1.18851	12.5	1019333.0	1.18851	Y
3	STD2 280-416844/14	2.0	2.253489	12.5	1080358.0	1.126745	Y
4	STD5 280-416844/13	5.0	5.348236	12.5	1050580.0	1.069647	Y
5	ICIS 280-416844/12	10.0	10.498445	12.5	1075720.0	1.049845	Y
6	STD30 280-416844/11	30.0	29.806897	12.5	984385.0	0.993563	Y
7	STD60 280-416844/10	60.0	55.433162	12.5	1022372.0	0.923886	Y





## Calibration

/ 1,2-Dichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

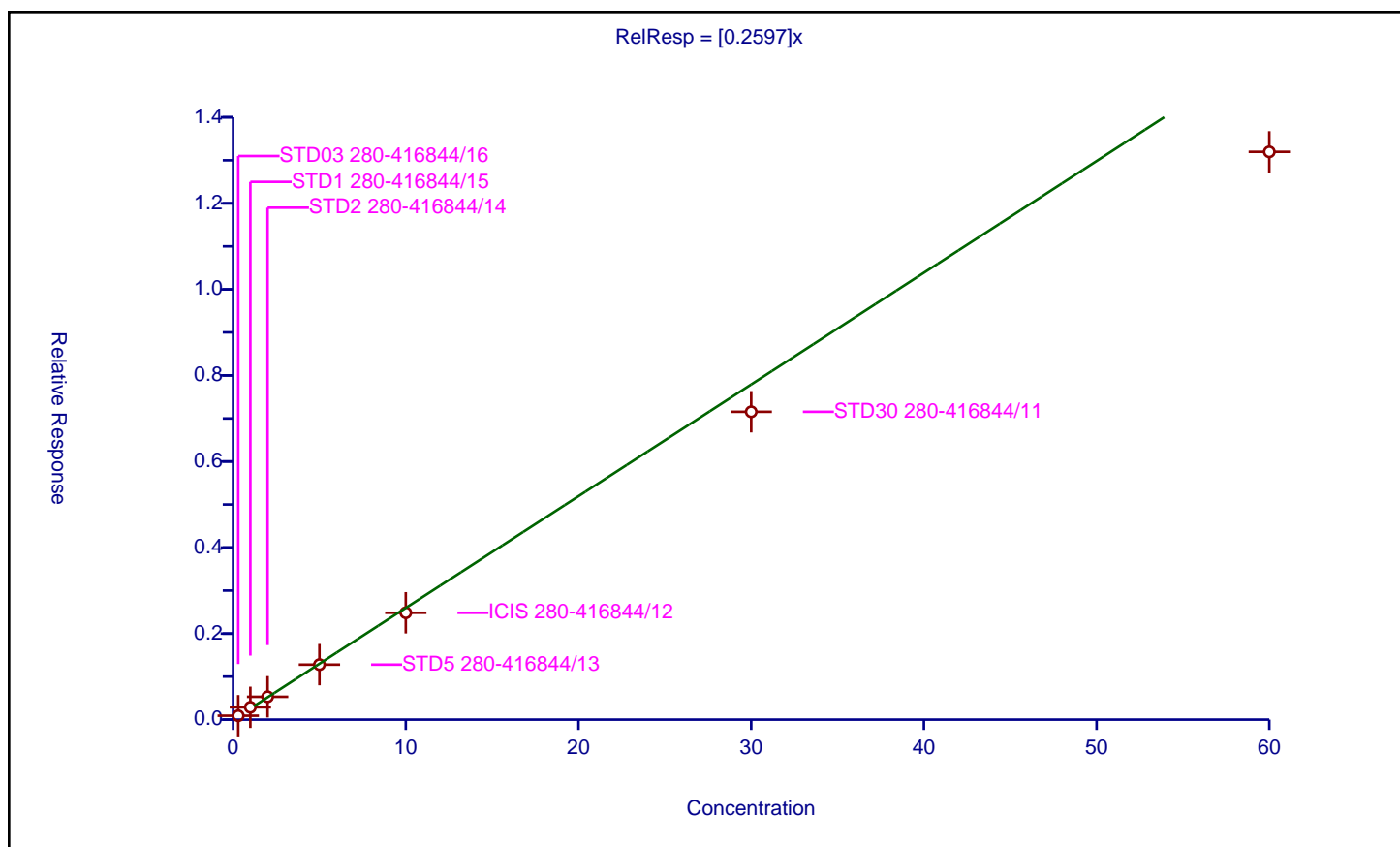
### Curve Coefficients

Intercept: 0  
 Slope: 0.2597

### Error Coefficients

Standard Error: 507000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.090873	12.5	1034682.0	0.302911	Y
2	STD1 280-416844/15	1.0	0.286732	12.5	1019333.0	0.286732	Y
3	STD2 280-416844/14	2.0	0.531051	12.5	1080358.0	0.265525	Y
4	STD5 280-416844/13	5.0	1.278401	12.5	1050580.0	0.25568	Y
5	ICIS 280-416844/12	10.0	2.483999	12.5	1075720.0	0.2484	Y
6	STD30 280-416844/11	30.0	7.155496	12.5	984385.0	0.238517	Y
7	STD60 280-416844/10	60.0	13.196848	12.5	1022372.0	0.219947	Y





## Calibration

/ Trichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

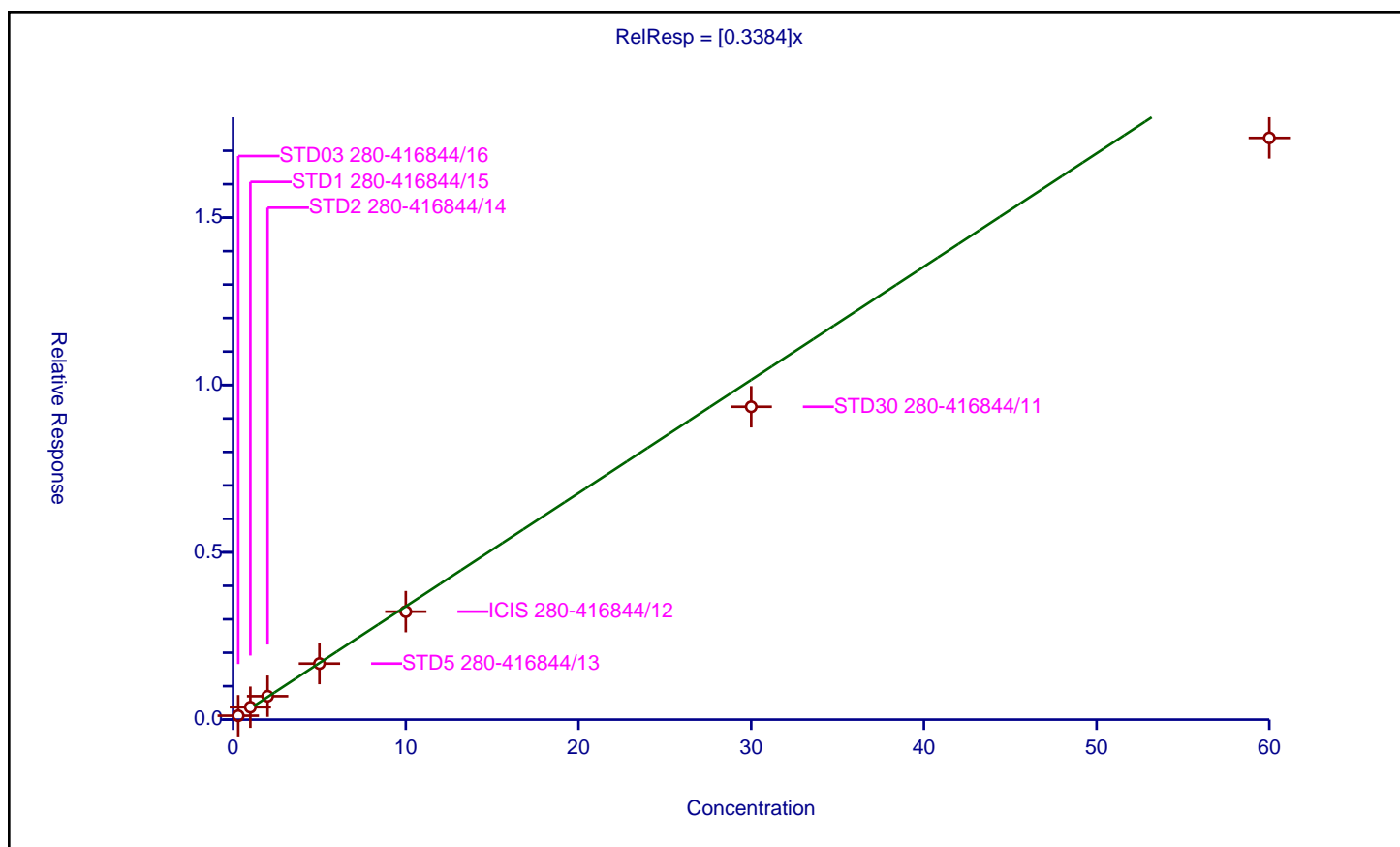
### Curve Coefficients

Intercept: 0  
 Slope: 0.3384

### Error Coefficients

Standard Error: 666000  
 Relative Standard Error: 10.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.116654	12.5	1034682.0	0.388847	Y
2	STD1 280-416844/15	1.0	0.370941	12.5	1019333.0	0.370941	Y
3	STD2 280-416844/14	2.0	0.69978	12.5	1080358.0	0.34989	Y
4	STD5 280-416844/13	5.0	1.675717	12.5	1050580.0	0.335143	Y
5	ICIS 280-416844/12	10.0	3.227397	12.5	1075720.0	0.32274	Y
6	STD30 280-416844/11	30.0	9.349365	12.5	984385.0	0.311646	Y
7	STD60 280-416844/10	60.0	17.383888	12.5	1022372.0	0.289731	Y





# Calibration

/ 2-Pentanone

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

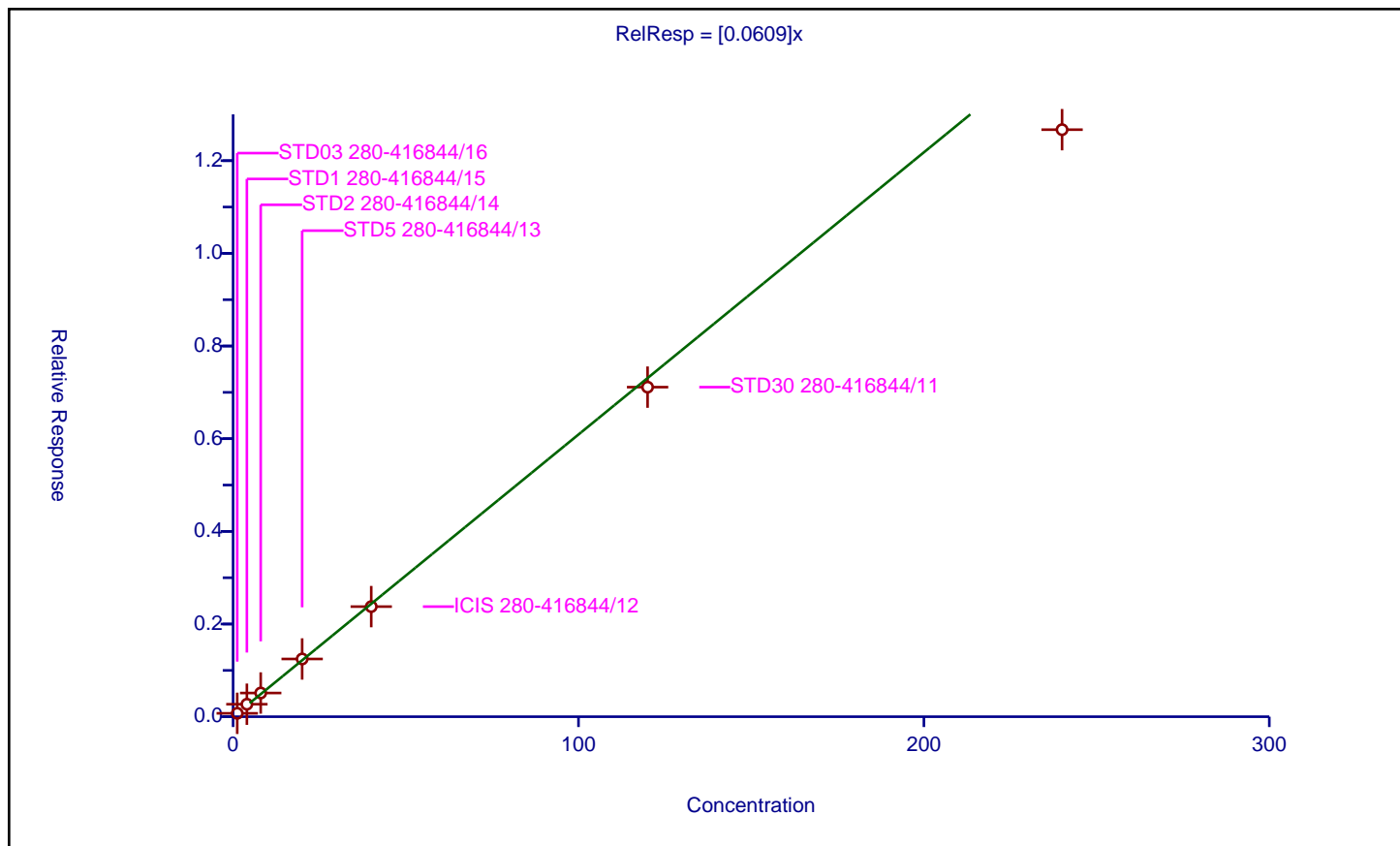
## Curve Coefficients

Intercept: 0  
 Slope: 0.0609

## Error Coefficients

Standard Error: 490000  
 Relative Standard Error: 7.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.073416	12.5	1034682.0	0.06118	Y
2	STD1 280-416844/15	4.0	0.269588	12.5	1019333.0	0.067397	Y
3	STD2 280-416844/14	8.0	0.511786	12.5	1080358.0	0.063973	Y
4	STD5 280-416844/13	20.0	1.246288	12.5	1050580.0	0.062314	Y
5	ICIS 280-416844/12	40.0	2.375909	12.5	1075720.0	0.059398	Y
6	STD30 280-416844/11	120.0	7.112906	12.5	984385.0	0.059274	Y
7	STD60 280-416844/10	240.0	12.669386	12.5	1022372.0	0.052789	Y





## Calibration

/ Methylcyclohexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

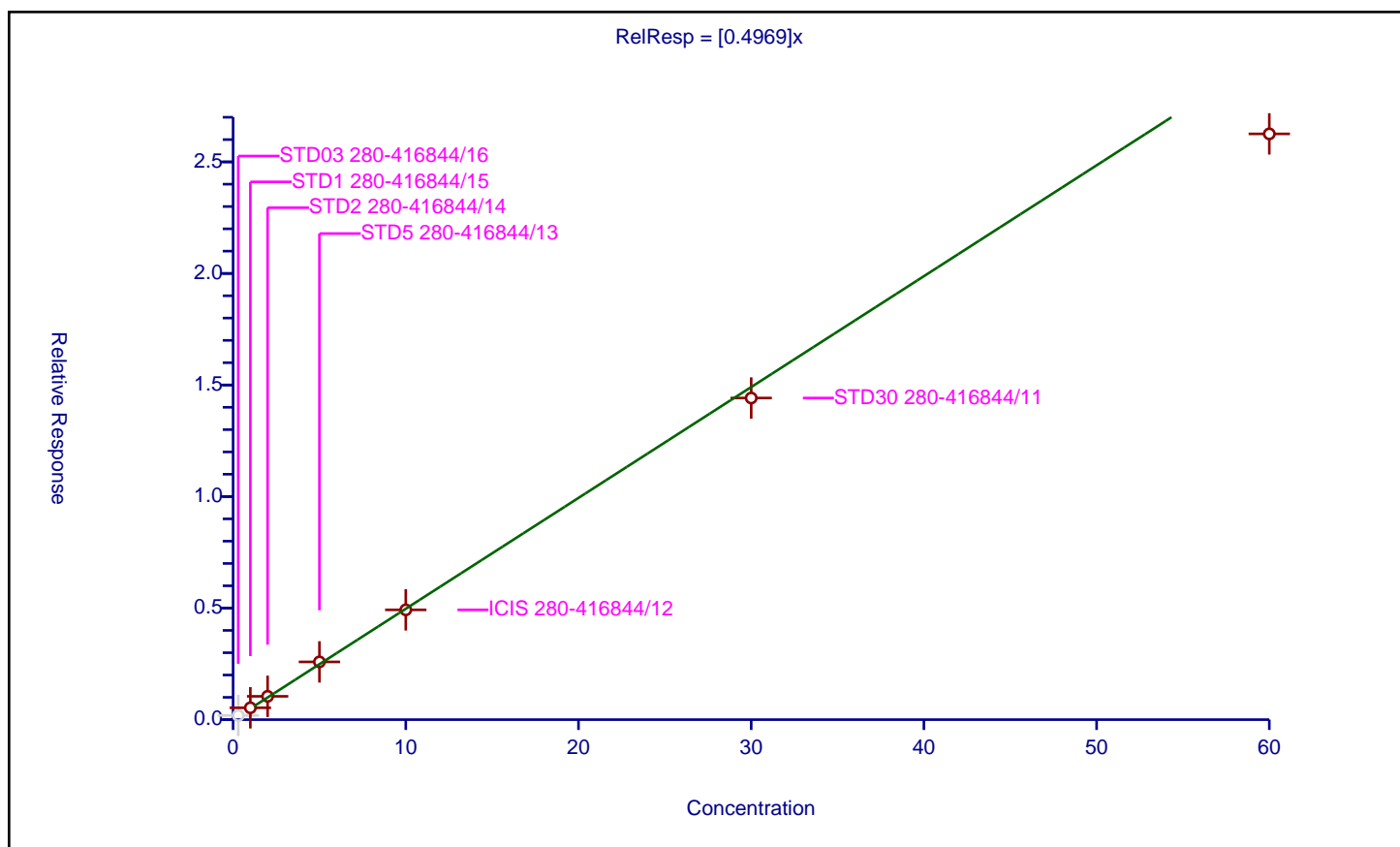
### Curve Coefficients

Intercept: 0  
 Slope: 0.4969

### Error Coefficients

Standard Error: 1110000  
 Relative Standard Error: 7.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.187437	12.5	1034682.0	0.624789	N
2	STD1 280-416844/15	1.0	0.530653	12.5	1019333.0	0.530653	Y
3	STD2 280-416844/14	2.0	1.04588	12.5	1080358.0	0.52294	Y
4	STD5 280-416844/13	5.0	2.588404	12.5	1050580.0	0.517681	Y
5	ICIS 280-416844/12	10.0	4.921216	12.5	1075720.0	0.492122	Y
6	STD30 280-416844/11	30.0	14.4164	12.5	984385.0	0.480547	Y
7	STD60 280-416844/10	60.0	26.25616	12.5	1022372.0	0.437603	Y





## Calibration

/ 1,2-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

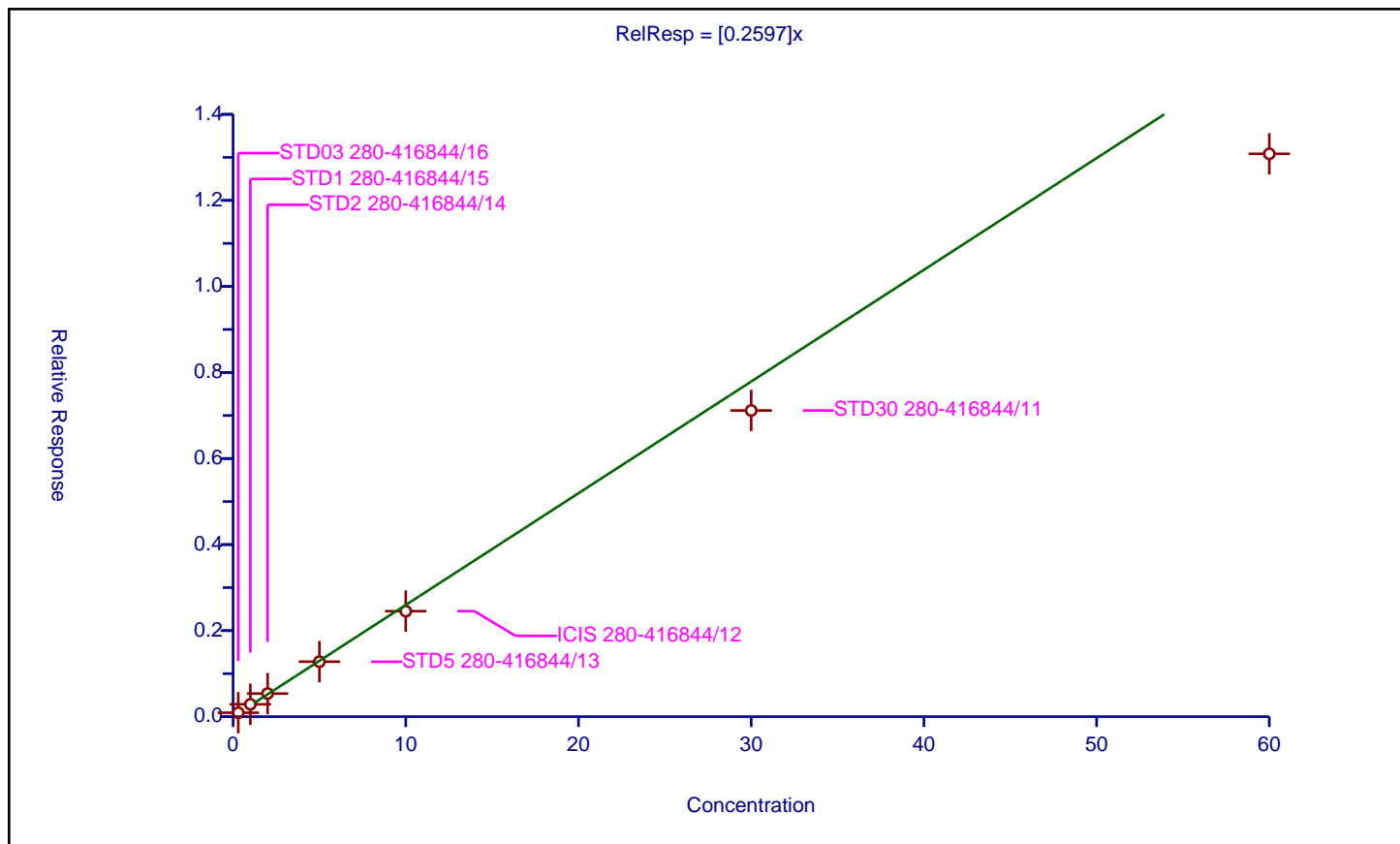
### Curve Coefficients

Intercept: 0  
 Slope: 0.2597

### Error Coefficients

Standard Error: 503000  
 Relative Standard Error: 11.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.091828	12.5	1034682.0	0.306092	Y
2	STD1 280-416844/15	1.0	0.287296	12.5	1019333.0	0.287296	Y
3	STD2 280-416844/14	2.0	0.536767	12.5	1080358.0	0.268383	Y
4	STD5 280-416844/13	5.0	1.277378	12.5	1050580.0	0.255476	Y
5	ICIS 280-416844/12	10.0	2.451219	12.5	1075720.0	0.245122	Y
6	STD30 280-416844/11	30.0	7.116334	12.5	984385.0	0.237211	Y
7	STD60 280-416844/10	60.0	13.082335	12.5	1022372.0	0.218039	Y





## Calibration

/ 1,4-Dioxane

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

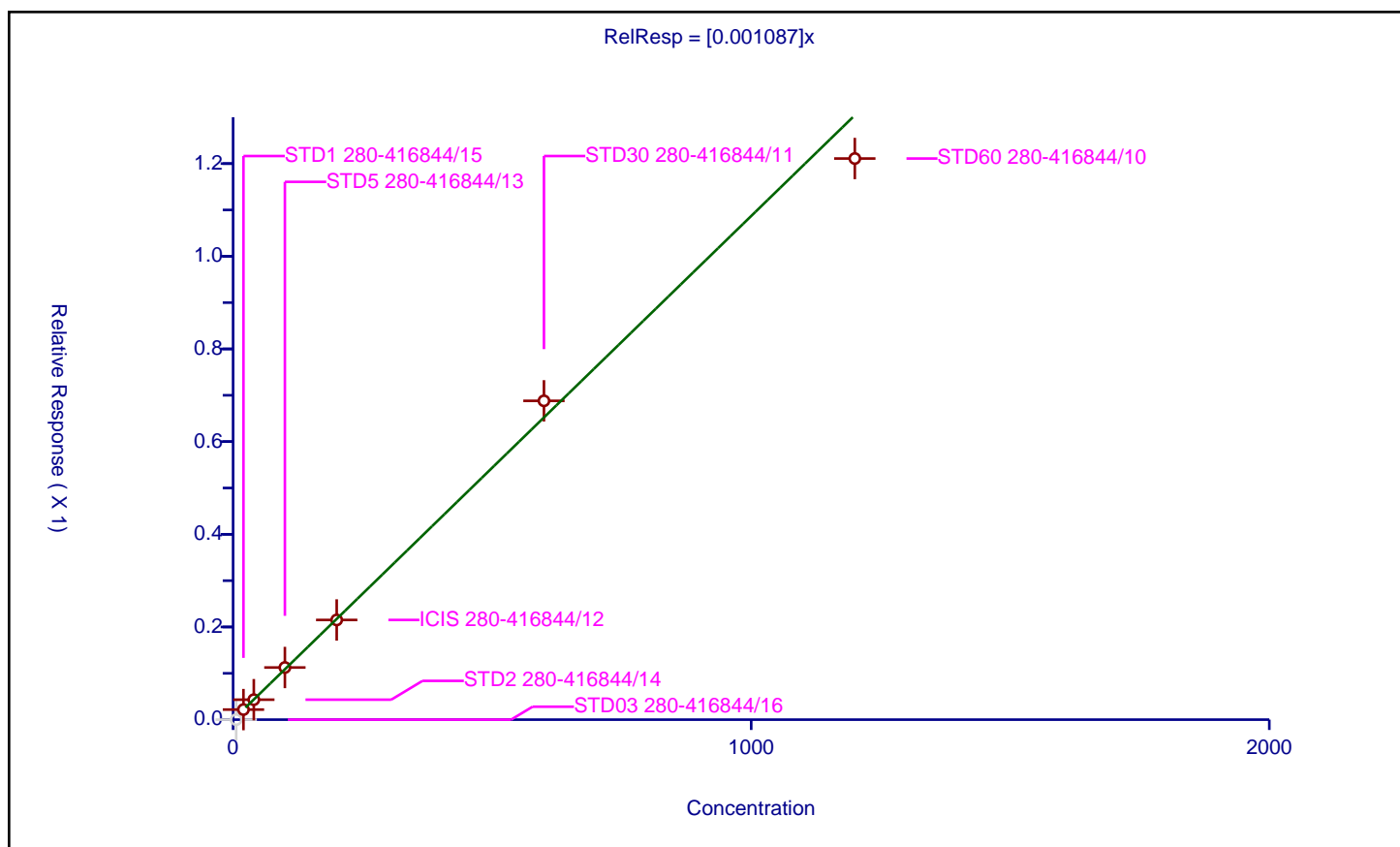
## Curve Coefficients

Intercept: 0  
Slope: 0.001087

## Error Coefficients

Standard Error: 51400  
Relative Standard Error: 4.4  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	6.0	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	20.0	0.021742	12.5	1019333.0	0.001087	Y
3	STD2 280-416844/14	40.0	0.043099	12.5	1080358.0	0.001077	Y
4	STD5 280-416844/13	100.0	0.112545	12.5	1050580.0	0.001125	Y
5	ICIS 280-416844/12	200.0	0.215135	12.5	1075720.0	0.001076	Y
6	STD30 280-416844/11	600.0	0.688057	12.5	984385.0	0.001147	Y
7	STD60 280-416844/10	1200.0	1.210983	12.5	1022372.0	0.001009	Y





## Calibration

/ Dibromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

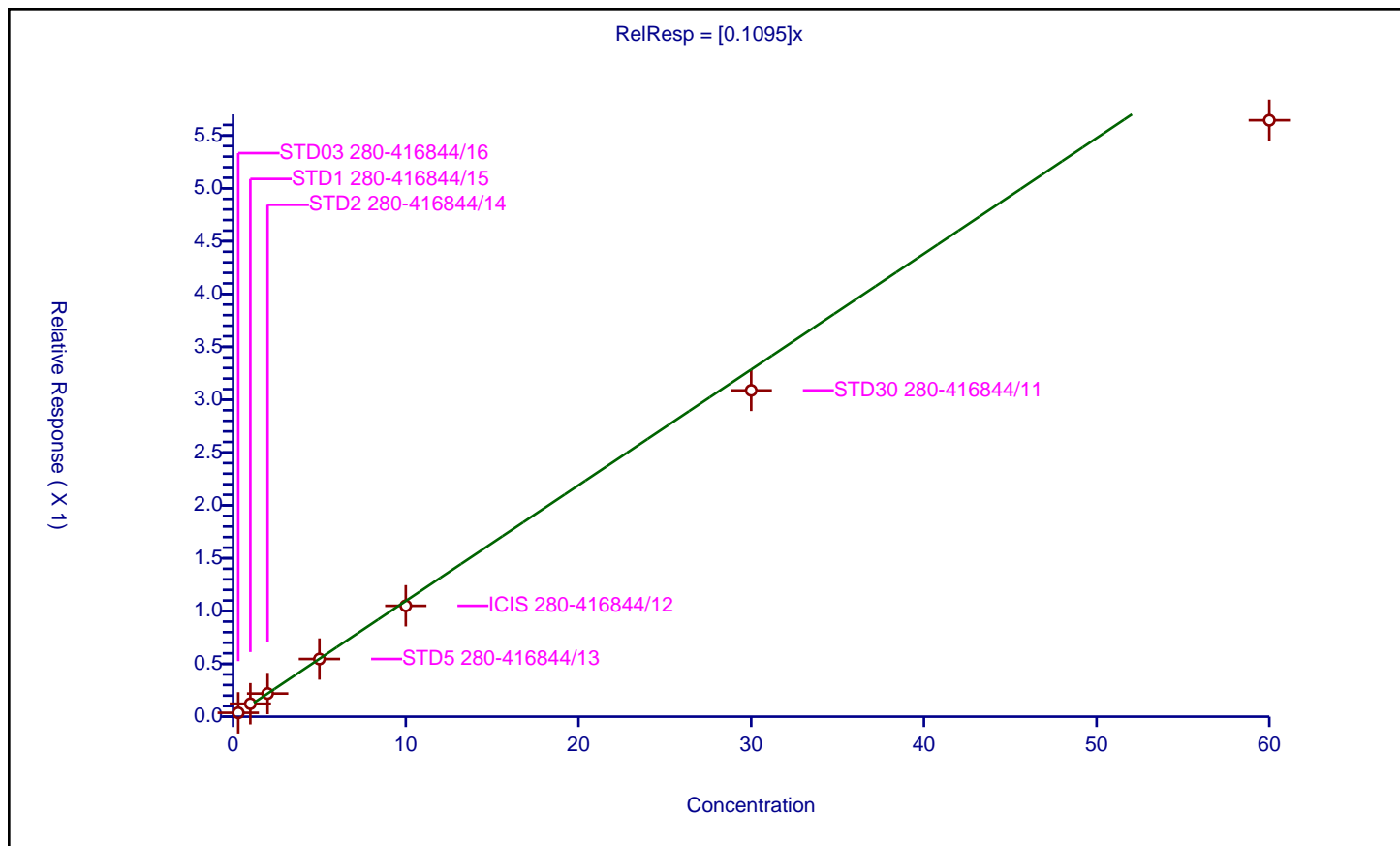
### Curve Coefficients

Intercept: 0  
 Slope: 0.1095

### Error Coefficients

Standard Error: 217000  
 Relative Standard Error: 9.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.036871	12.5	1034682.0	0.122904	Y
2	STD1 280-416844/15	1.0	0.122936	12.5	1019333.0	0.122936	Y
3	STD2 280-416844/14	2.0	0.219279	12.5	1080358.0	0.10964	Y
4	STD5 280-416844/13	5.0	0.545829	12.5	1050580.0	0.109166	Y
5	ICIS 280-416844/12	10.0	1.049634	12.5	1075720.0	0.104963	Y
6	STD30 280-416844/11	30.0	3.088121	12.5	984385.0	0.102937	Y
7	STD60 280-416844/10	60.0	5.644203	12.5	1022372.0	0.09407	Y





## Calibration

/ Dichlorobromomethane

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

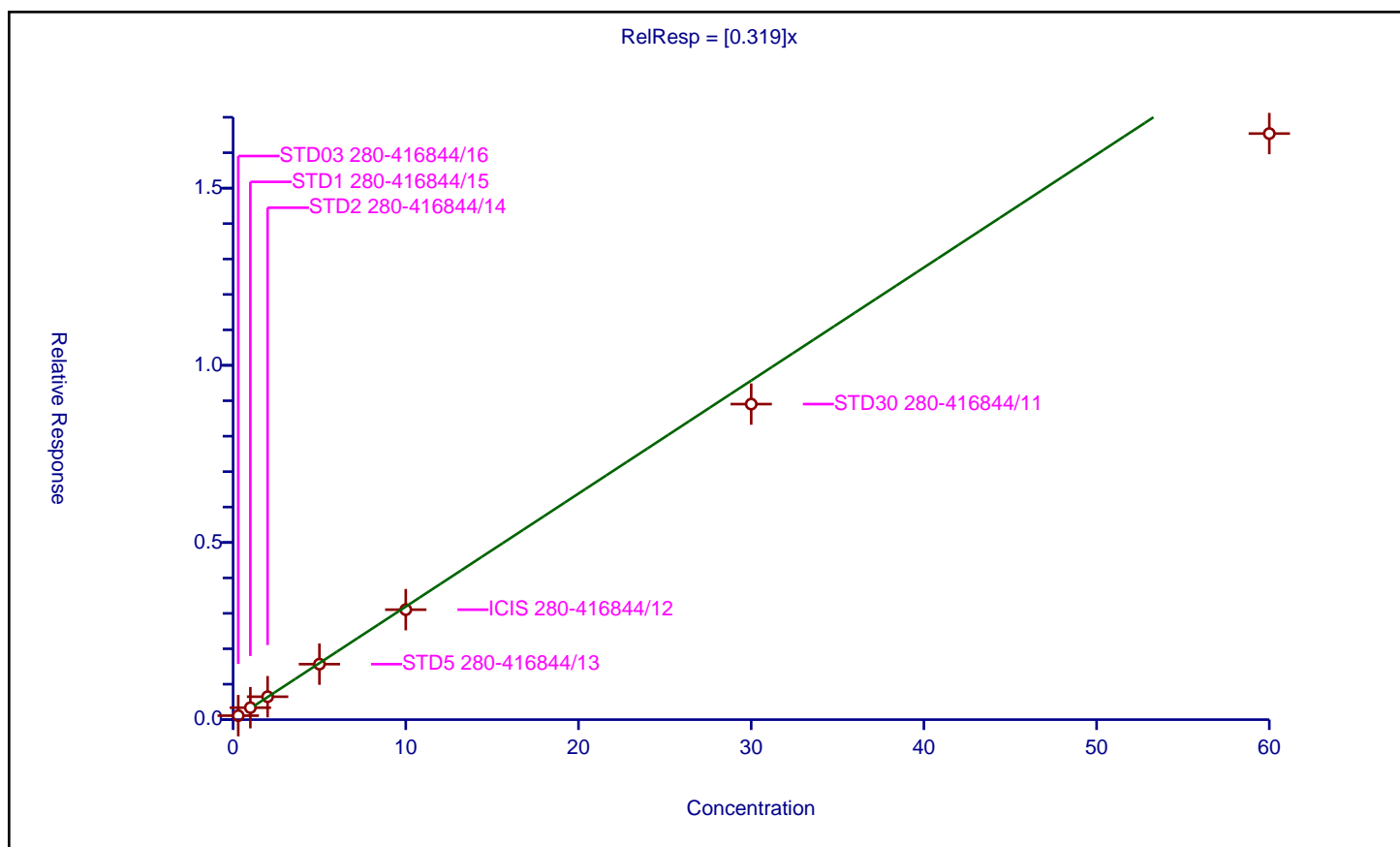
## Curve Coefficients

Intercept: 0  
Slope: 0.319

## Error Coefficients

Standard Error: 634000  
Relative Standard Error: 9.9  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.112559	12.5	1034682.0	0.375196	Y
2	STD1 280-416844/15	1.0	0.338089	12.5	1019333.0	0.338089	Y
3	STD2 280-416844/14	2.0	0.647147	12.5	1080358.0	0.323573	Y
4	STD5 280-416844/13	5.0	1.565897	12.5	1050580.0	0.313179	Y
5	ICIS 280-416844/12	10.0	3.103851	12.5	1075720.0	0.310385	Y
6	STD30 280-416844/11	30.0	8.905319	12.5	984385.0	0.296844	Y
7	STD60 280-416844/10	60.0	16.540347	12.5	1022372.0	0.275672	Y





## Calibration

/ 2-Chloroethyl vinyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

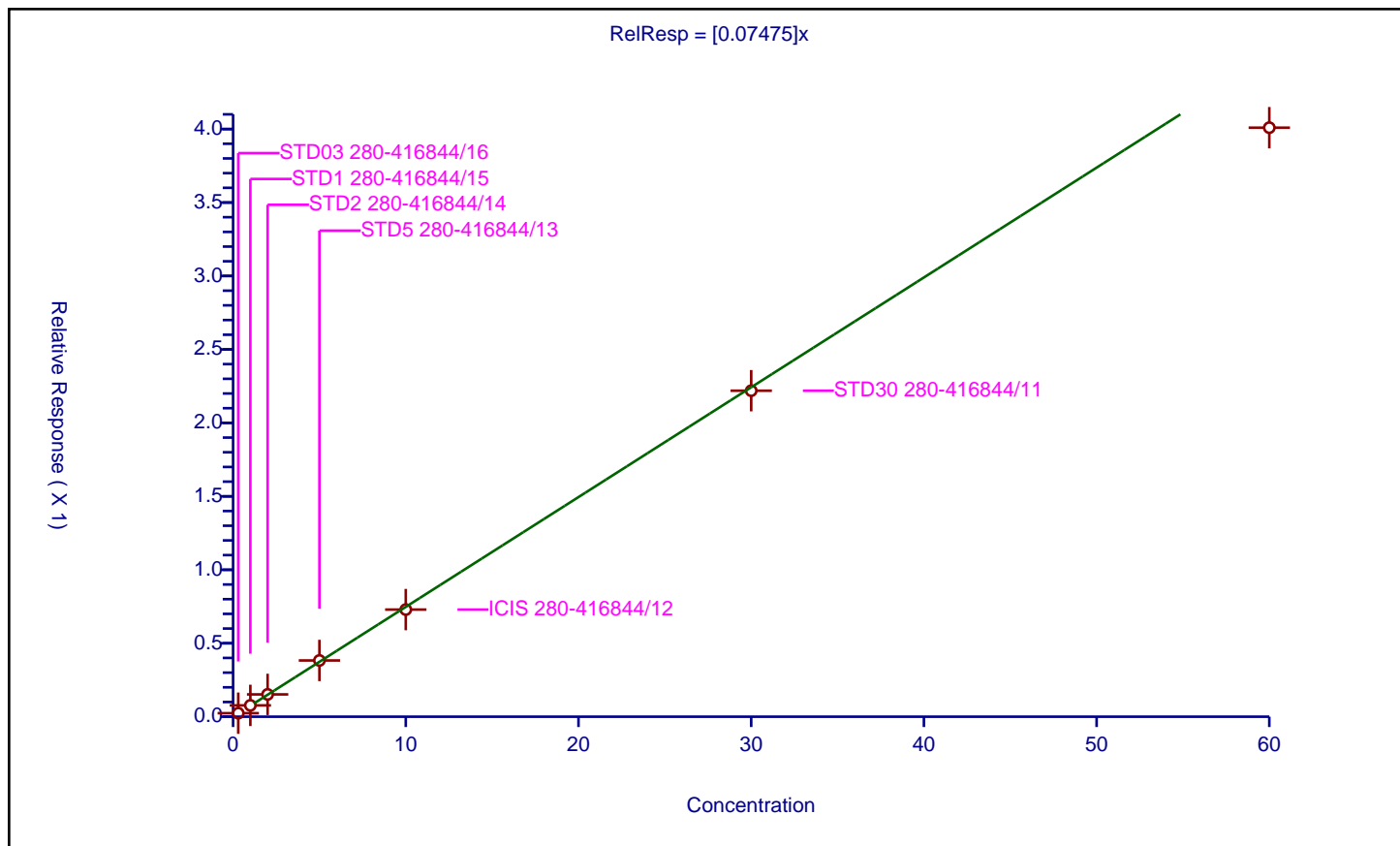
### Curve Coefficients

Intercept: 0  
 Slope: 0.07475

### Error Coefficients

Standard Error: 155000  
 Relative Standard Error: 5.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.023969	12.5	1034682.0	0.079896	Y
2	STD1 280-416844/15	1.0	0.077134	12.5	1019333.0	0.077134	Y
3	STD2 280-416844/14	2.0	0.151871	12.5	1080358.0	0.075935	Y
4	STD5 280-416844/13	5.0	0.382812	12.5	1050580.0	0.076562	Y
5	ICIS 280-416844/12	10.0	0.729128	12.5	1075720.0	0.072913	Y
6	STD30 280-416844/11	30.0	2.218974	12.5	984385.0	0.073966	Y
7	STD60 280-416844/10	60.0	4.009353	12.5	1022372.0	0.066823	Y





# Calibration

/ cis-1,3-Dichloropropene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

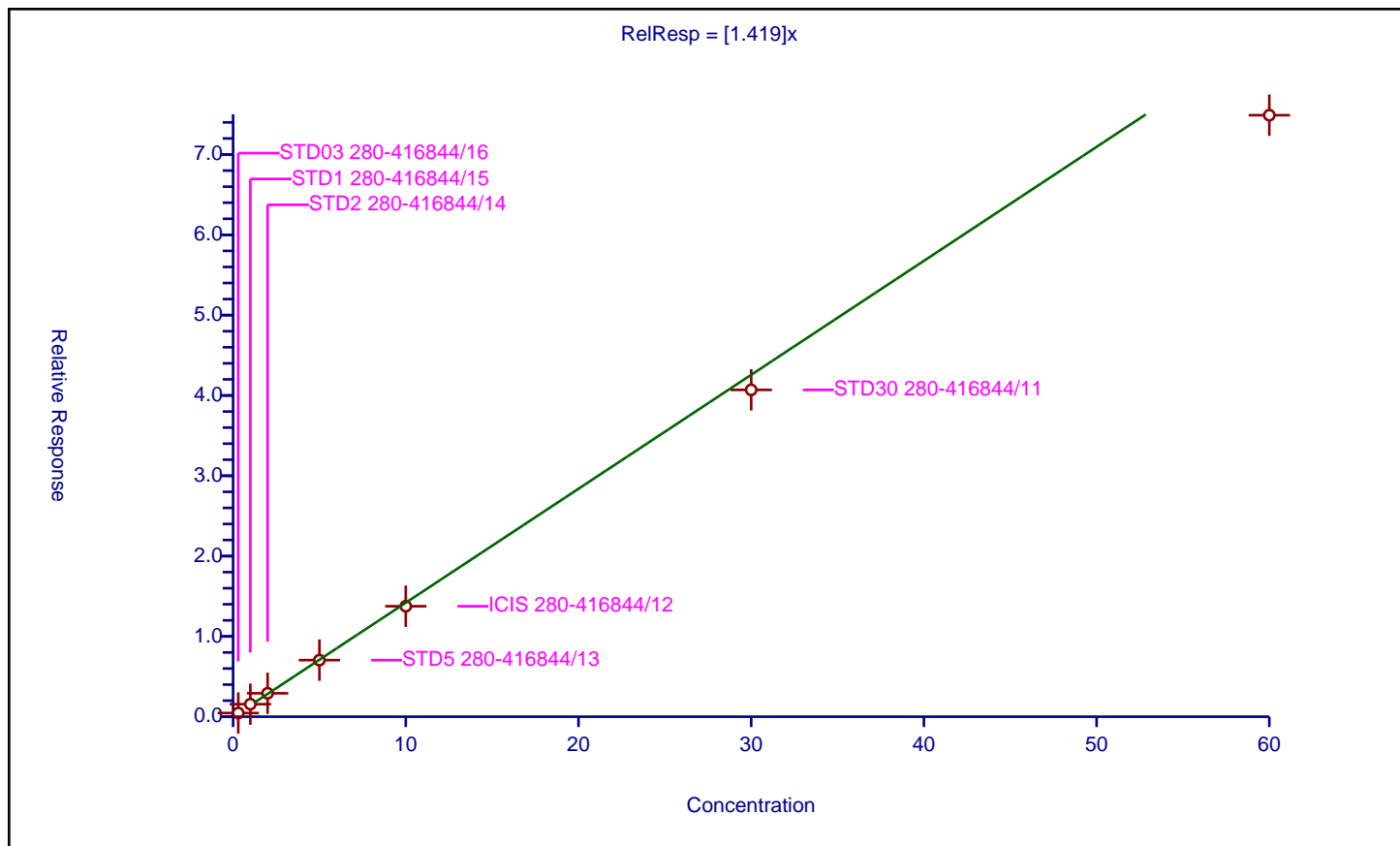
## Curve Coefficients

Intercept: 0  
 Slope: 1.419

## Error Coefficients

Standard Error: 696000  
 Relative Standard Error: 7.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.457058	12.5	257845.0	1.523525	Y
2	STD1 280-416844/15	1.0	1.561554	12.5	255939.0	1.561554	Y
3	STD2 280-416844/14	2.0	2.917502	12.5	272382.0	1.458751	Y
4	STD5 280-416844/13	5.0	7.044706	12.5	264225.0	1.408941	Y
5	ICIS 280-416844/12	10.0	13.757464	12.5	267115.0	1.375746	Y
6	STD30 280-416844/11	30.0	40.695749	12.5	240331.0	1.356525	Y
7	STD60 280-416844/10	60.0	74.894991	12.5	246407.0	1.24825	Y





## Calibration

/ 4-Methyl-2-pentanone (MIBK)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

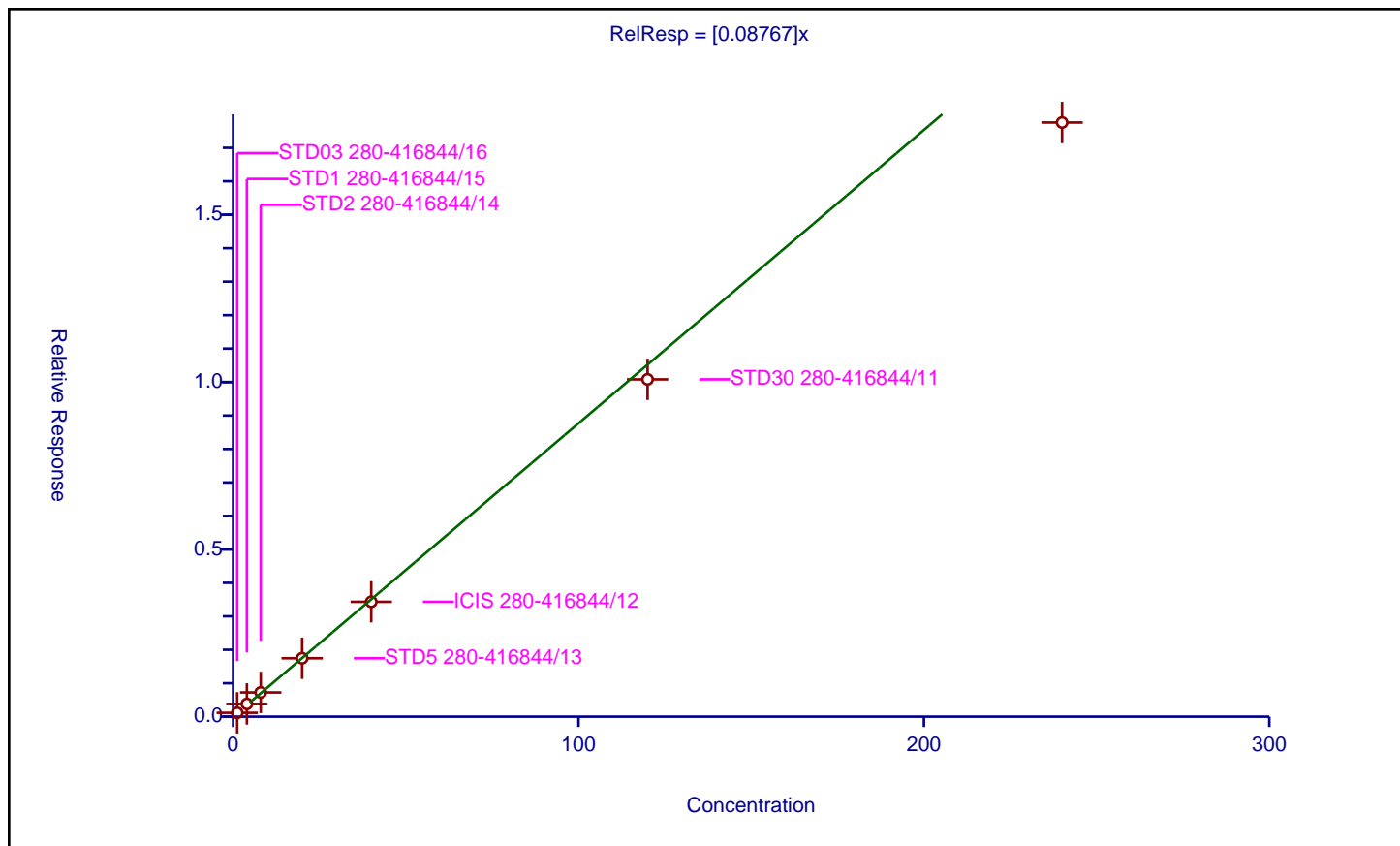
### Curve Coefficients

Intercept: 0  
 Slope: 0.08767

### Error Coefficients

Standard Error: 690000  
 Relative Standard Error: 8.7  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.115748	12.5	1034682.0	0.096457	Y
2	STD1 280-416844/15	4.0	0.381941	12.5	1019333.0	0.095485	Y
3	STD2 280-416844/14	8.0	0.724667	12.5	1080358.0	0.090583	Y
4	STD5 280-416844/13	20.0	1.746761	12.5	1050580.0	0.087338	Y
5	ICIS 280-416844/12	40.0	3.433538	12.5	1075720.0	0.085838	Y
6	STD30 280-416844/11	120.0	10.081256	12.5	984385.0	0.08401	Y
7	STD60 280-416844/10	240.0	17.756636	12.5	1022372.0	0.073986	Y





# Calibration

/ Toluene-d8 (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

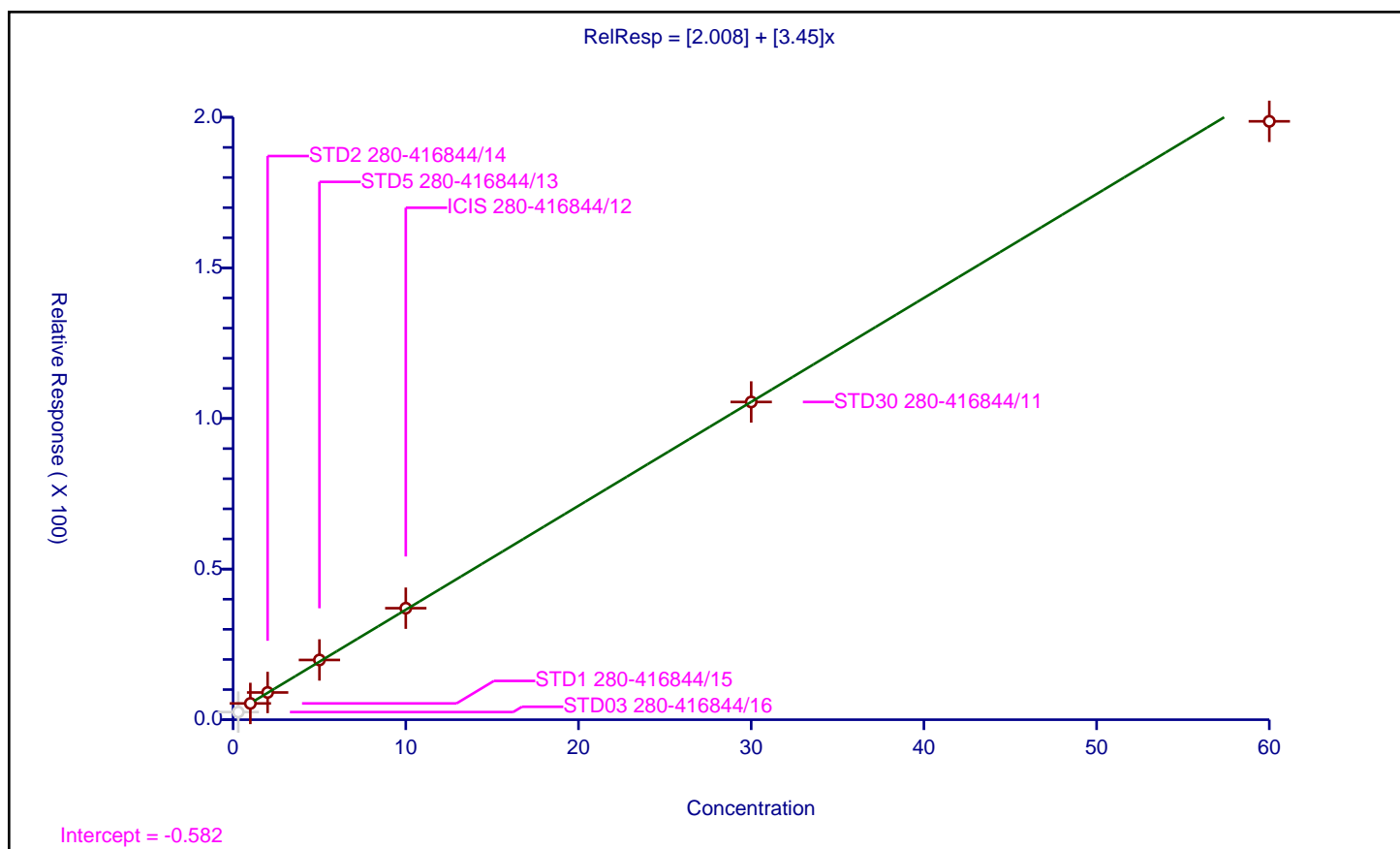
## Curve Coefficients

Intercept: 2.008  
 Slope: 3.45

## Error Coefficients

Standard Error: 2250000  
 Relative Standard Error: 3.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	2.535438	12.5	257845.0	8.45146	N
2	STD1 280-416844/15	1.0	5.400017	12.5	255939.0	5.400017	Y
3	STD2 280-416844/14	2.0	9.040383	12.5	272382.0	4.520191	Y
4	STD5 280-416844/13	5.0	19.835604	12.5	264225.0	3.967121	Y
5	ICIS 280-416844/12	10.0	37.015845	12.5	267115.0	3.701585	Y
6	STD30 280-416844/11	30.0	105.47963	12.5	240331.0	3.515988	Y
7	STD60 280-416844/10	60.0	198.656339	12.5	246407.0	3.310939	Y





## Calibration

/ Toluene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

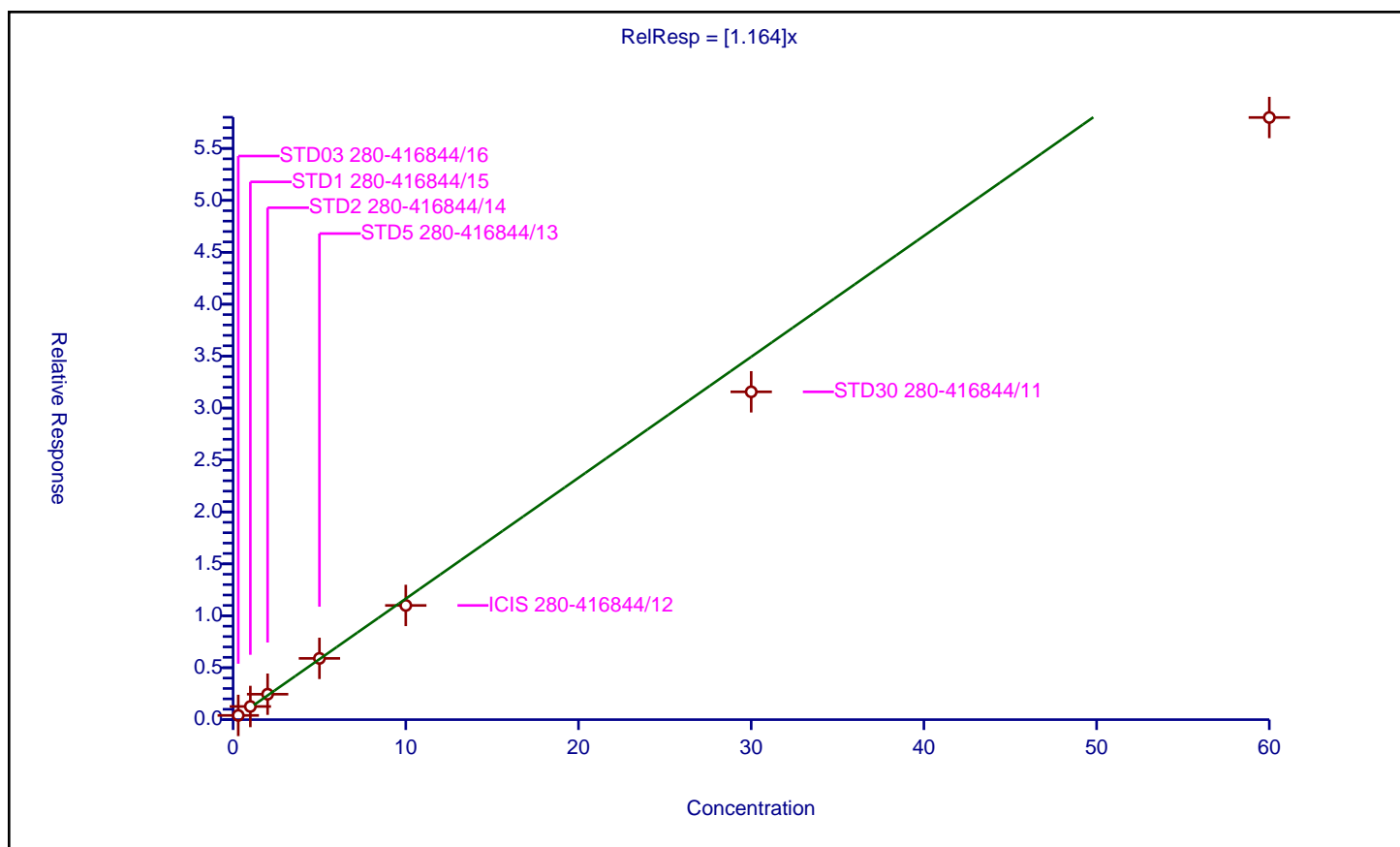
## Curve Coefficients

Intercept: 0  
Slope: 1.164

## Error Coefficients

Standard Error: 2230000  
Relative Standard Error: 11.6  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.407927	12.5	1034682.0	1.359758	Y
2	STD1 280-416844/15	1.0	1.268881	12.5	1019333.0	1.268881	Y
3	STD2 280-416844/14	2.0	2.449454	12.5	1080358.0	1.224727	Y
4	STD5 280-416844/13	5.0	5.897992	12.5	1050580.0	1.179598	Y
5	ICIS 280-416844/12	10.0	10.996925	12.5	1075720.0	1.099693	Y
6	STD30 280-416844/11	30.0	31.564517	12.5	984385.0	1.052151	Y
7	STD60 280-416844/10	60.0	57.979764	12.5	1022372.0	0.966329	Y





# Calibration

/ Ethyl methacrylate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

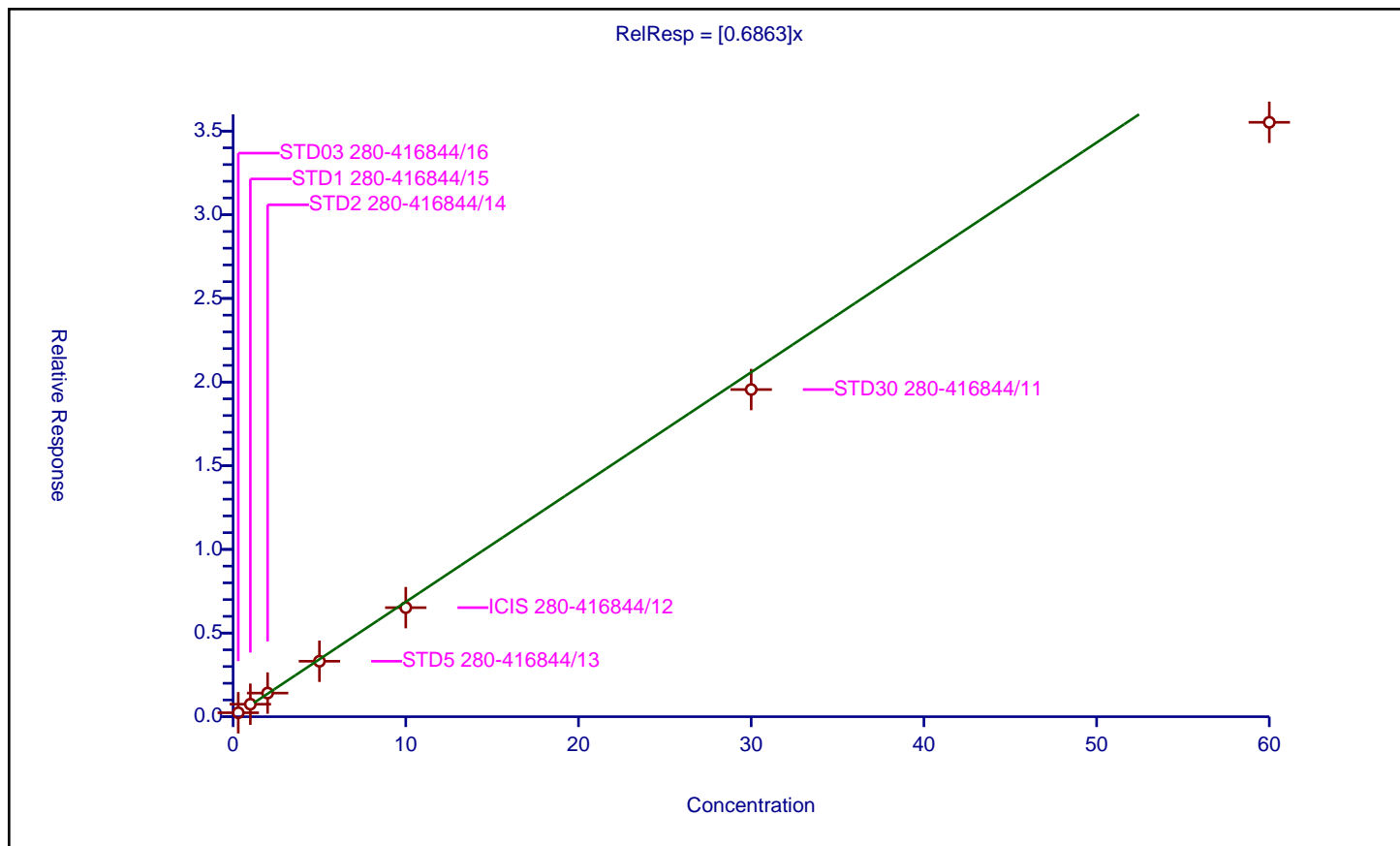
## Curve Coefficients

Intercept: 0  
 Slope: 0.6863

## Error Coefficients

Standard Error: 331000  
 Relative Standard Error: 9.8  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.237303	12.5	257845.0	0.791011	Y
2	STD1 280-416844/15	1.0	0.747639	12.5	255939.0	0.747639	Y
3	STD2 280-416844/14	2.0	1.412951	12.5	272382.0	0.706476	Y
4	STD5 280-416844/13	5.0	3.314883	12.5	264225.0	0.662977	Y
5	ICIS 280-416844/12	10.0	6.518587	12.5	267115.0	0.651859	Y
6	STD30 280-416844/11	30.0	19.553761	12.5	240331.0	0.651792	Y
7	STD60 280-416844/10	60.0	35.524356	12.5	246407.0	0.592073	Y





## Calibration

/ trans-1,3-Dichloropropene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

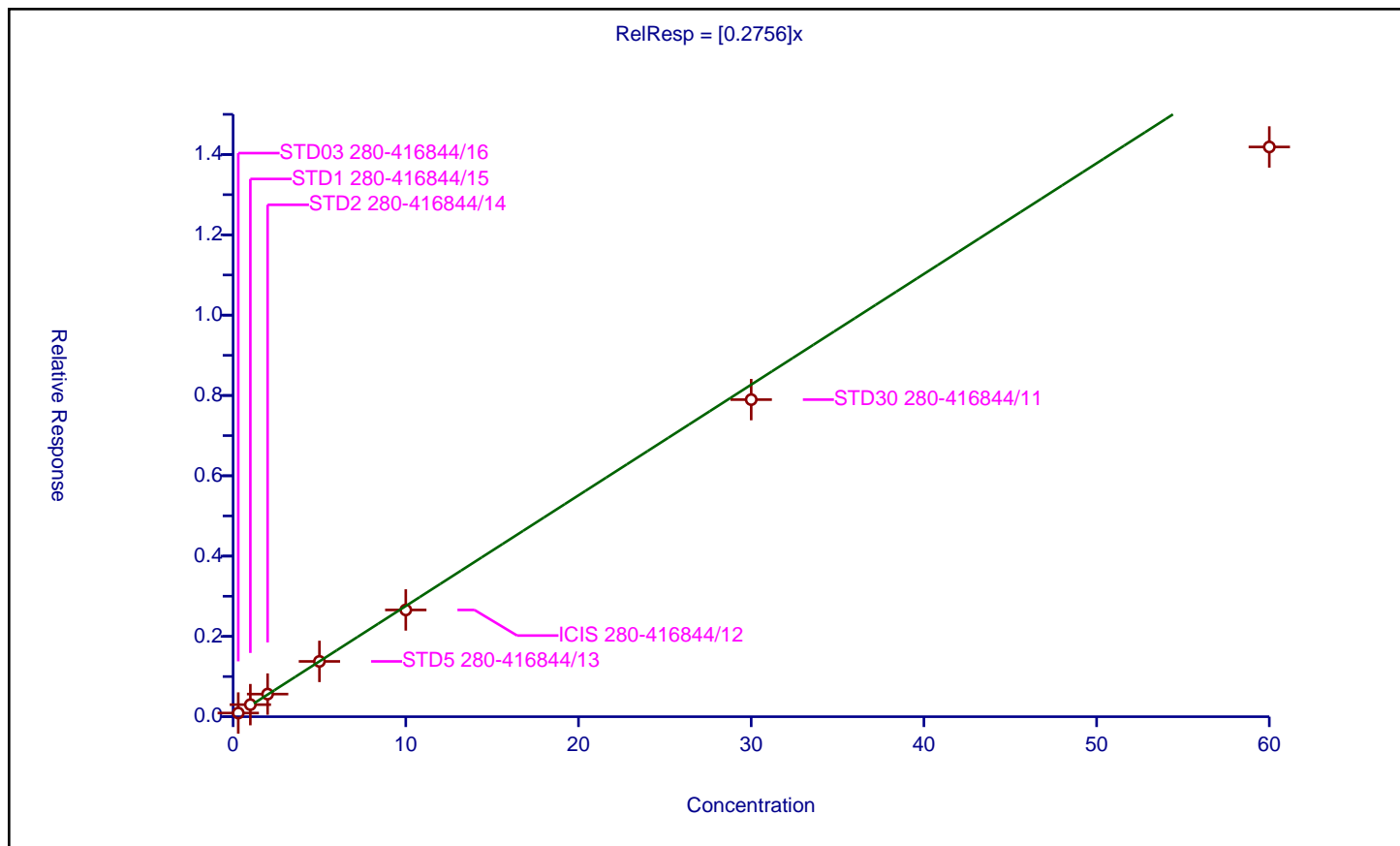
### Curve Coefficients

Intercept: 0  
 Slope: 0.2756

### Error Coefficients

Standard Error: 548000  
 Relative Standard Error: 8.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.09184	12.5	1034682.0	0.306133	Y
2	STD1 280-416844/15	1.0	0.30065	12.5	1019333.0	0.30065	Y
3	STD2 280-416844/14	2.0	0.563228	12.5	1080358.0	0.281614	Y
4	STD5 280-416844/13	5.0	1.377239	12.5	1050580.0	0.275448	Y
5	ICIS 280-416844/12	10.0	2.658766	12.5	1075720.0	0.265877	Y
6	STD30 280-416844/11	30.0	7.89672	12.5	984385.0	0.263224	Y
7	STD60 280-416844/10	60.0	14.187974	12.5	1022372.0	0.236466	Y





# Calibration

/ 1,1,2-Trichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

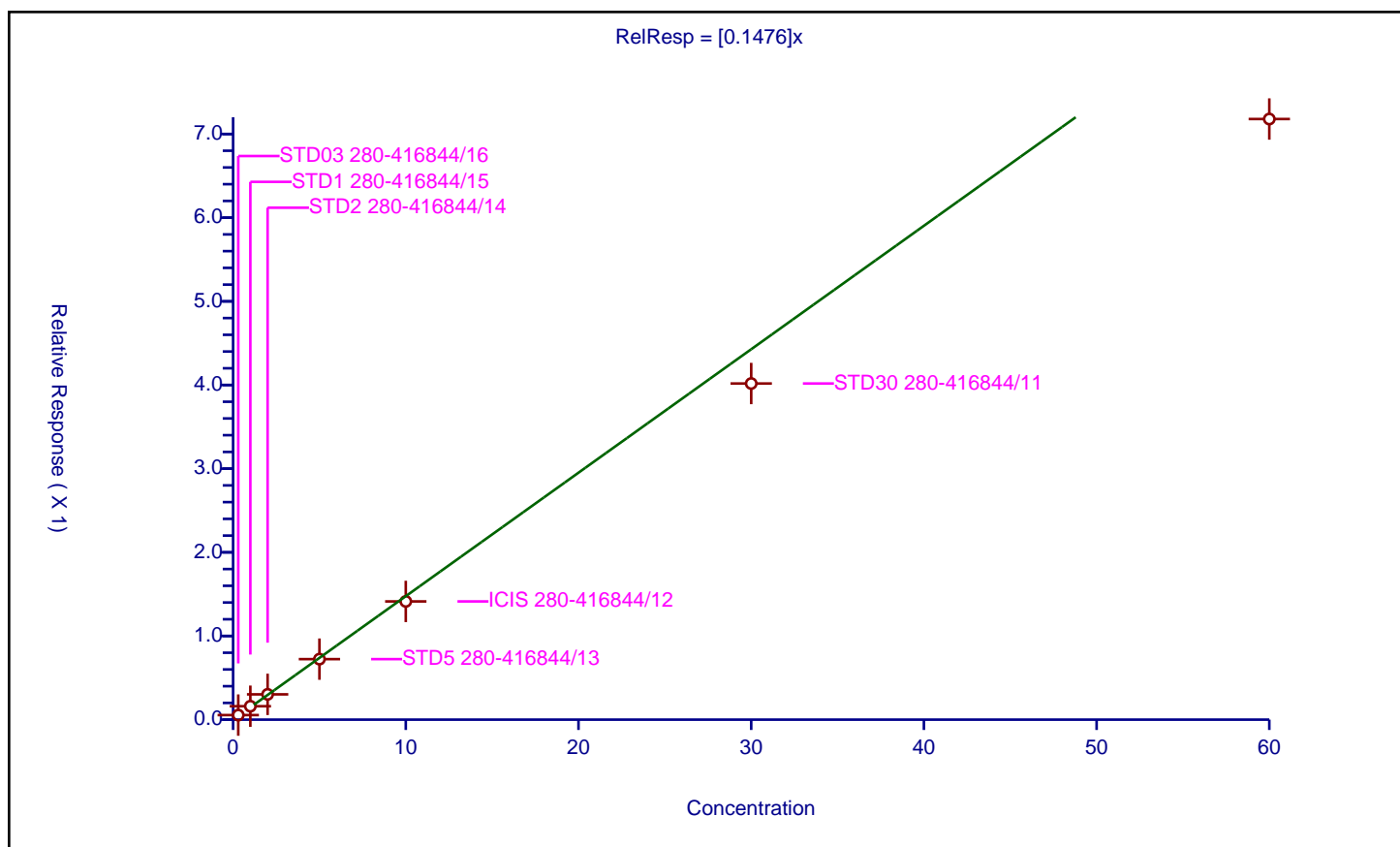
## Curve Coefficients

Intercept: 0  
 Slope: 0.1476

## Error Coefficients

Standard Error: 278000  
 Relative Standard Error: 13.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.974

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.05457	12.5	1034682.0	0.1819	Y
2	STD1 280-416844/15	1.0	0.160485	12.5	1019333.0	0.160485	Y
3	STD2 280-416844/14	2.0	0.302145	12.5	1080358.0	0.151073	Y
4	STD5 280-416844/13	5.0	0.723422	12.5	1050580.0	0.144684	Y
5	ICIS 280-416844/12	10.0	1.413158	12.5	1075720.0	0.141316	Y
6	STD30 280-416844/11	30.0	4.017508	12.5	984385.0	0.133917	Y
7	STD60 280-416844/10	60.0	7.179016	12.5	1022372.0	0.11965	Y





# Calibration

/ 2-Hexanone

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

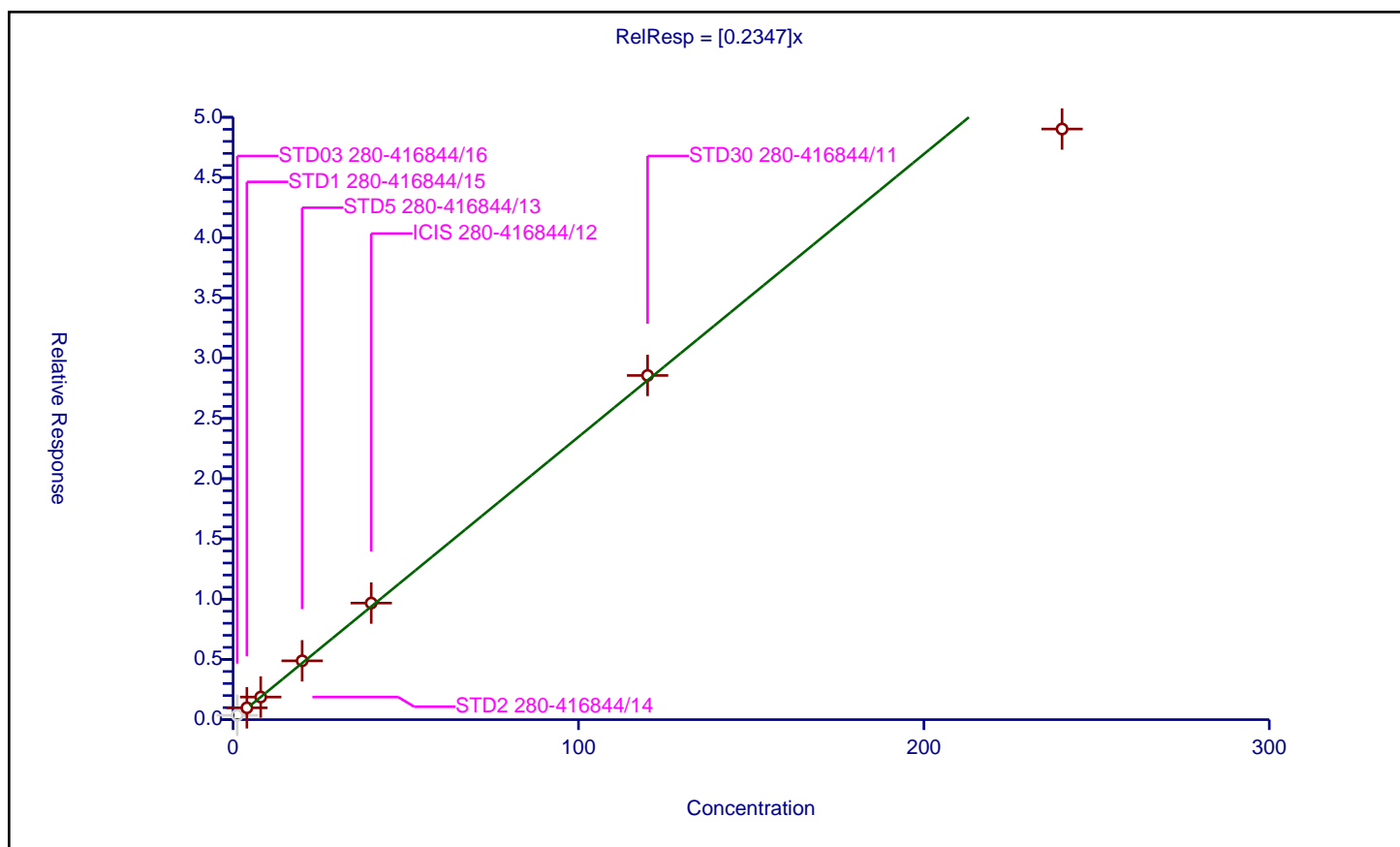
## Curve Coefficients

Intercept: 0  
 Slope: 0.2347

## Error Coefficients

Standard Error: 508000  
 Relative Standard Error: 6.6  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.36233	12.5	257845.0	0.301942	N
2	STD1 280-416844/15	4.0	0.981875	12.5	255939.0	0.245469	Y
3	STD2 280-416844/14	8.0	1.87595	12.5	272382.0	0.234494	Y
4	STD5 280-416844/13	20.0	4.882628	12.5	264225.0	0.244131	Y
5	ICIS 280-416844/12	40.0	9.675046	12.5	267115.0	0.241876	Y
6	STD30 280-416844/11	120.0	28.570388	12.5	240331.0	0.238087	Y
7	STD60 280-416844/10	240.0	49.024074	12.5	246407.0	0.204267	Y





## Calibration

/ Tetrachloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

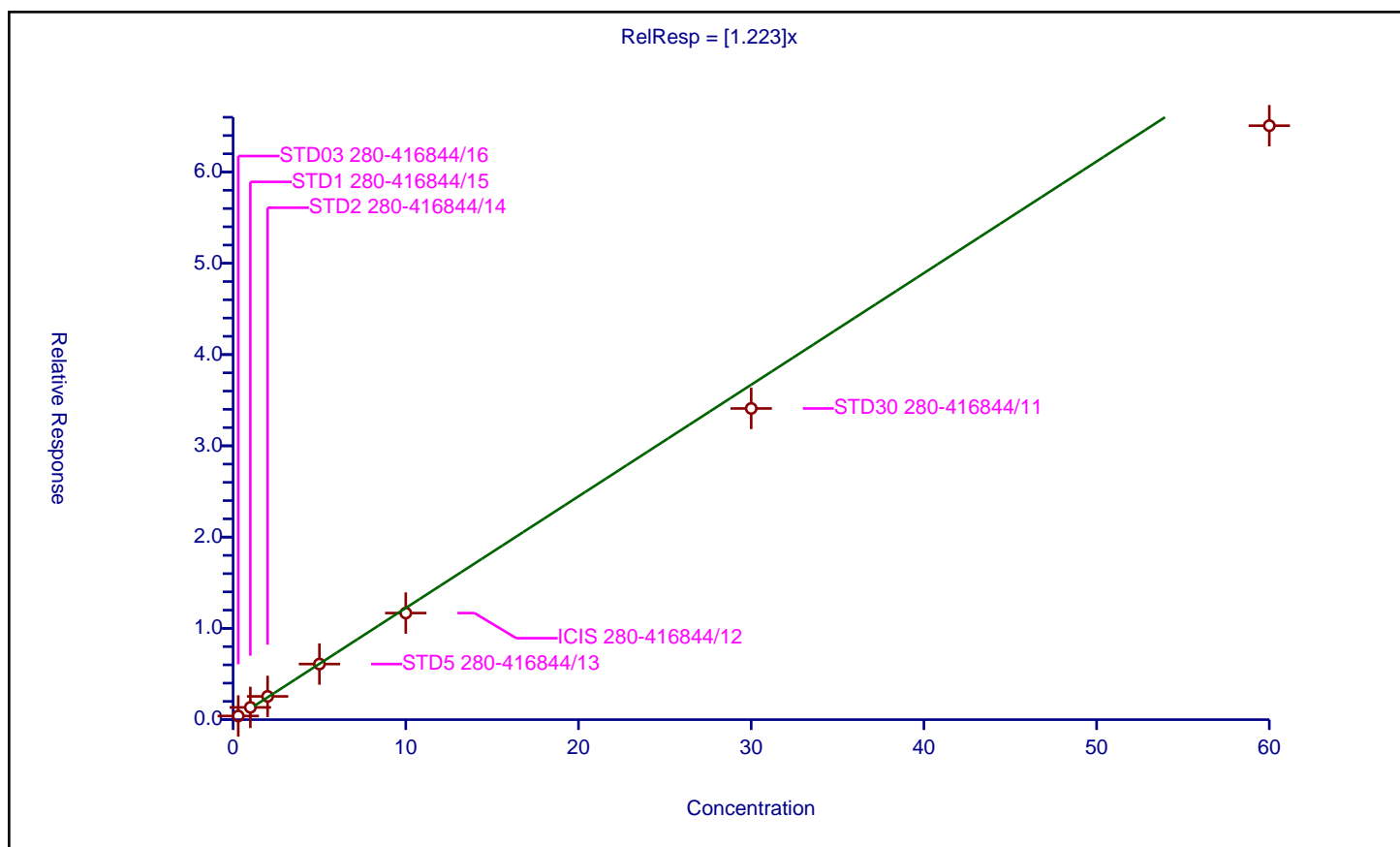
### Curve Coefficients

Intercept: 0  
 Slope: 1.223

### Error Coefficients

Standard Error: 600000  
 Relative Standard Error: 8.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.40058	12.5	257845.0	1.335266	Y
2	STD1 280-416844/15	1.0	1.344705	12.5	255939.0	1.344705	Y
3	STD2 280-416844/14	2.0	2.549544	12.5	272382.0	1.274772	Y
4	STD5 280-416844/13	5.0	6.092393	12.5	264225.0	1.218479	Y
5	ICIS 280-416844/12	10.0	11.678116	12.5	267115.0	1.167812	Y
6	STD30 280-416844/11	30.0	34.096309	12.5	240331.0	1.136544	Y
7	STD60 280-416844/10	60.0	65.078661	12.5	246407.0	1.084644	Y





## Calibration

/ 1,3-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

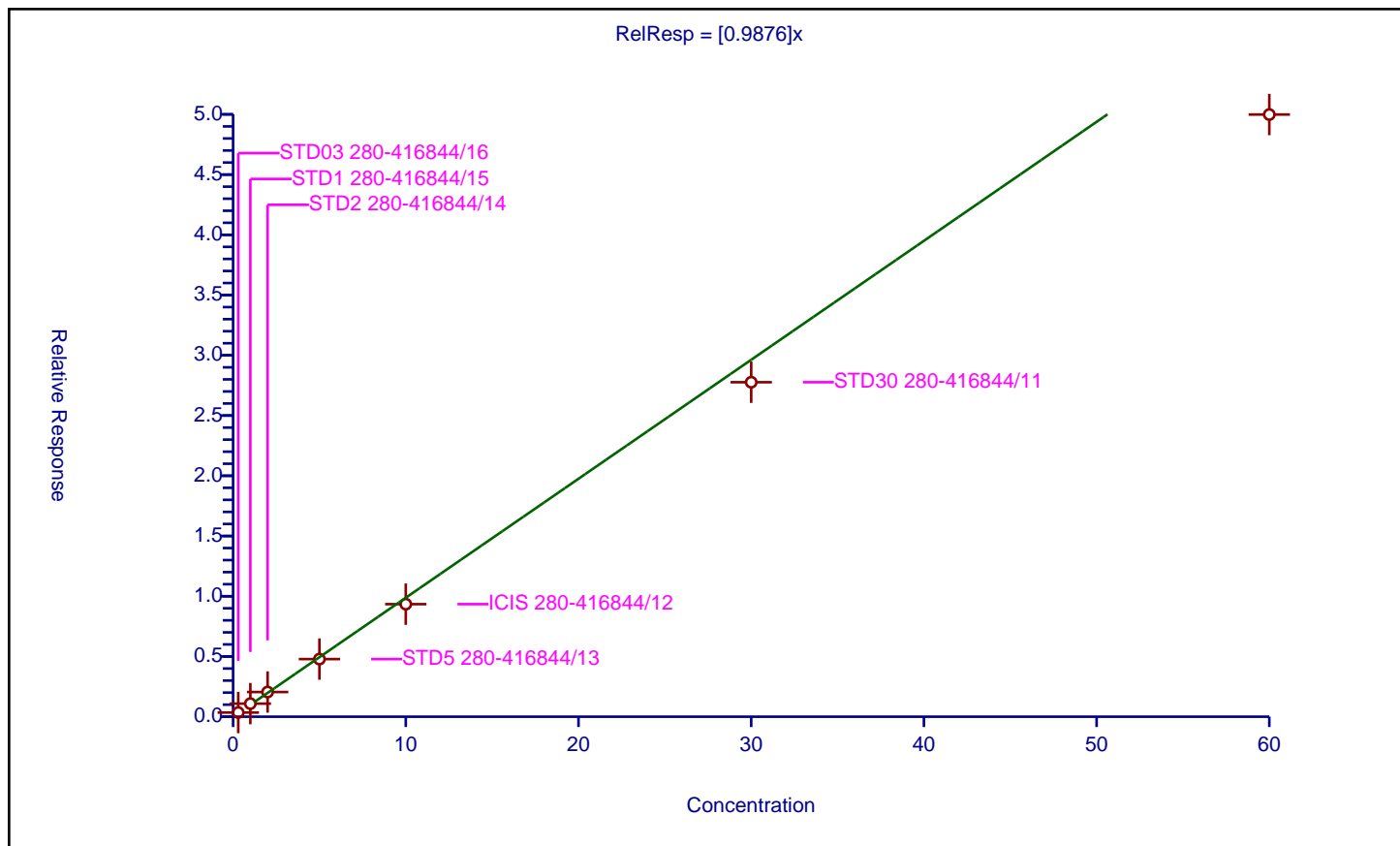
### Curve Coefficients

Intercept: 0  
 Slope: 0.9876

### Error Coefficients

Standard Error: 467000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.345363	12.5	257845.0	1.151208	Y
2	STD1 280-416844/15	1.0	1.087271	12.5	255939.0	1.087271	Y
3	STD2 280-416844/14	2.0	2.050383	12.5	272382.0	1.025192	Y
4	STD5 280-416844/13	5.0	4.782524	12.5	264225.0	0.956505	Y
5	ICIS 280-416844/12	10.0	9.342746	12.5	267115.0	0.934275	Y
6	STD30 280-416844/11	30.0	27.764105	12.5	240331.0	0.92547	Y
7	STD60 280-416844/10	60.0	49.986202	12.5	246407.0	0.833103	Y





# Calibration

/ Chlorodibromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

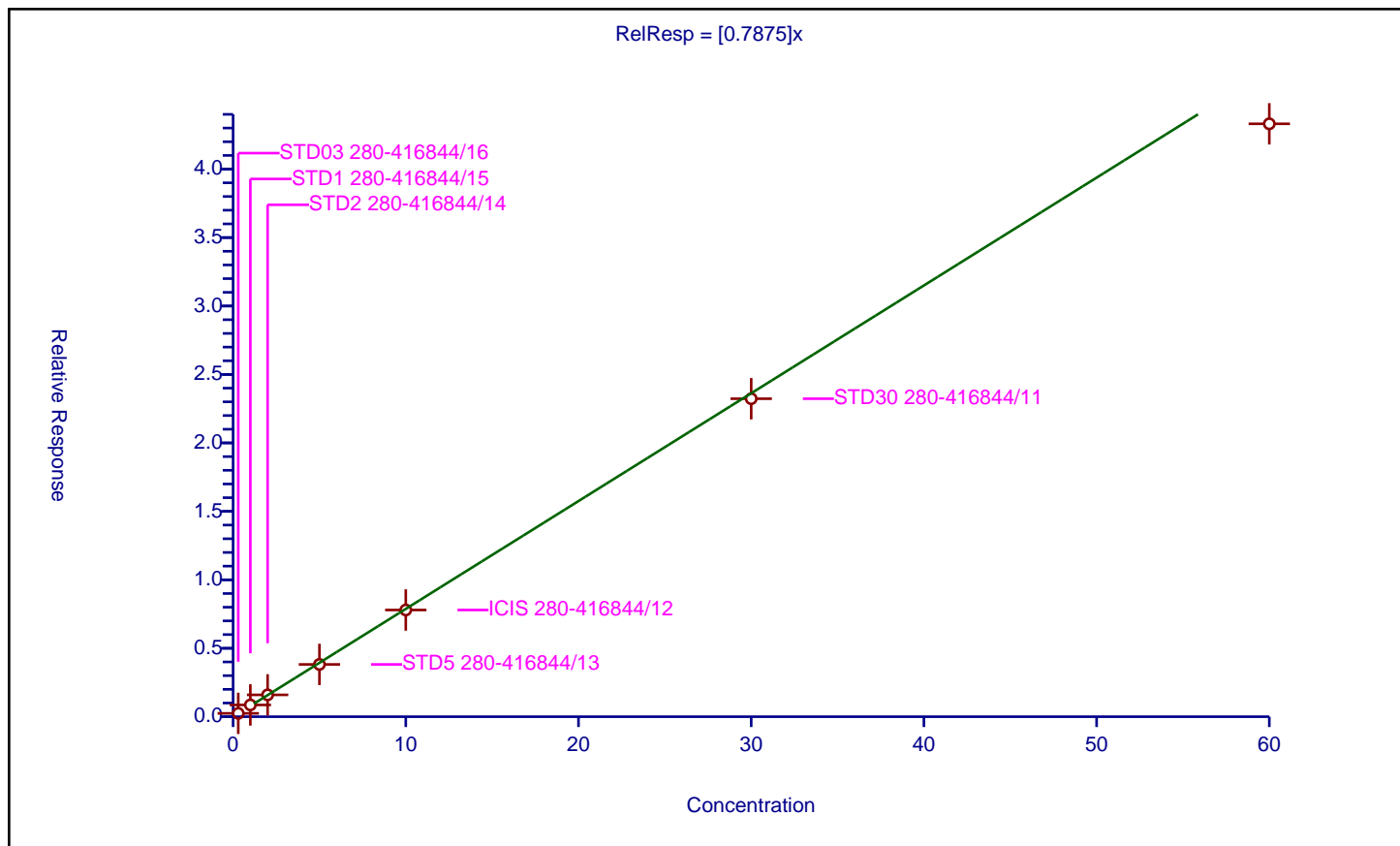
## Curve Coefficients

Intercept: 0  
 Slope: 0.7875

## Error Coefficients

Standard Error: 401000  
 Relative Standard Error: 5.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.244769	12.5	257845.0	0.815897	Y
2	STD1 280-416844/15	1.0	0.859336	12.5	255939.0	0.859336	Y
3	STD2 280-416844/14	2.0	1.595737	12.5	272382.0	0.797868	Y
4	STD5 280-416844/13	5.0	3.82056	12.5	264225.0	0.764112	Y
5	ICIS 280-416844/12	10.0	7.794489	12.5	267115.0	0.779449	Y
6	STD30 280-416844/11	30.0	23.229109	12.5	240331.0	0.774304	Y
7	STD60 280-416844/10	60.0	43.31061	12.5	246407.0	0.721844	Y





## Calibration

/ Ethylene Dibromide

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

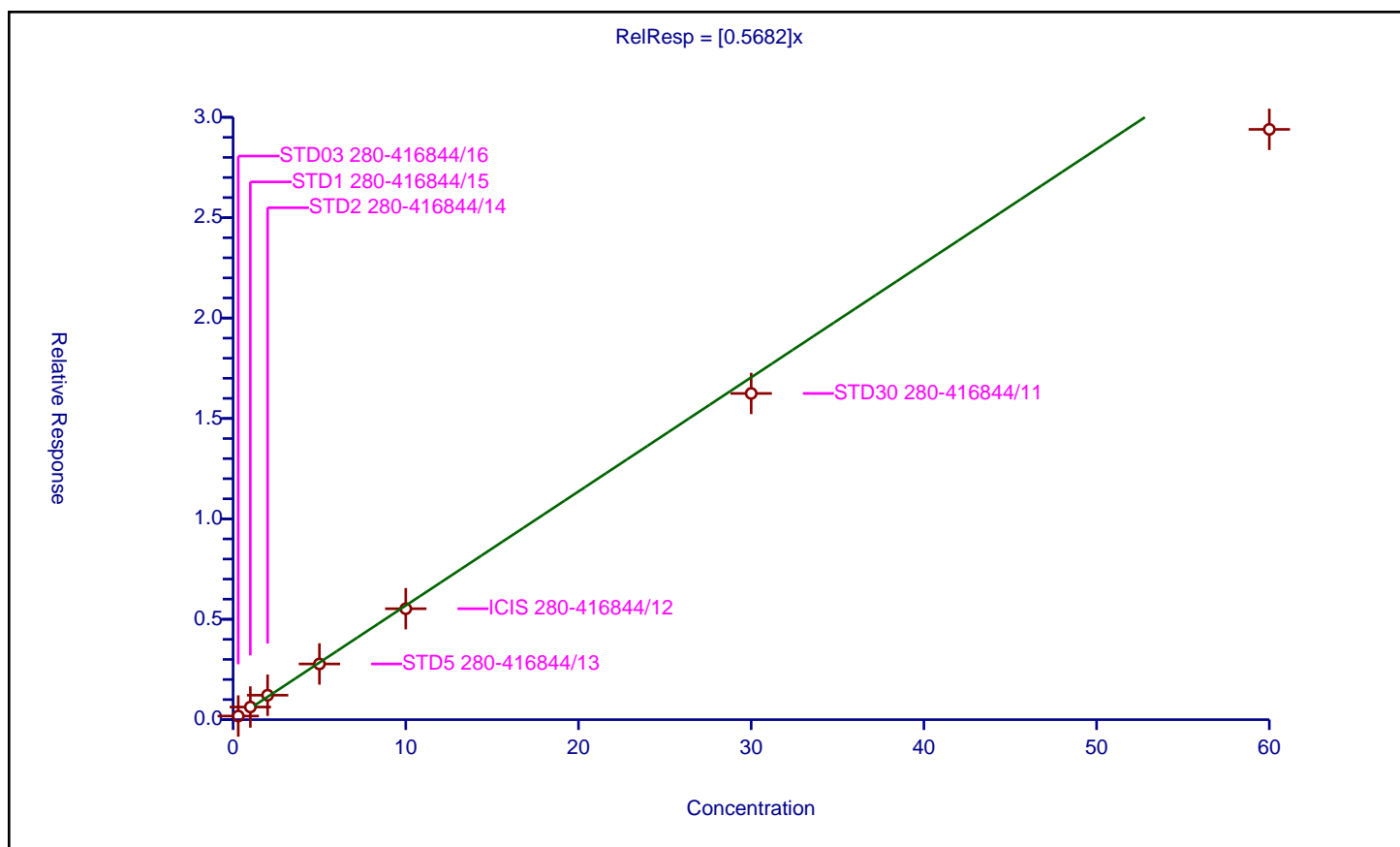
## Curve Coefficients

Intercept: 0  
Slope: 0.5682

## Error Coefficients

Standard Error: 274000  
Relative Standard Error: 8.4  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.180583	12.5	257845.0	0.601944	Y
2	STD1 280-416844/15	1.0	0.628763	12.5	255939.0	0.628763	Y
3	STD2 280-416844/14	2.0	1.216811	12.5	272382.0	0.608406	Y
4	STD5 280-416844/13	5.0	2.773063	12.5	264225.0	0.554613	Y
5	ICIS 280-416844/12	10.0	5.524072	12.5	267115.0	0.552407	Y
6	STD30 280-416844/11	30.0	16.246396	12.5	240331.0	0.541547	Y
7	STD60 280-416844/10	60.0	29.396537	12.5	246407.0	0.489942	Y





## Calibration

/ 1-Chlorohexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

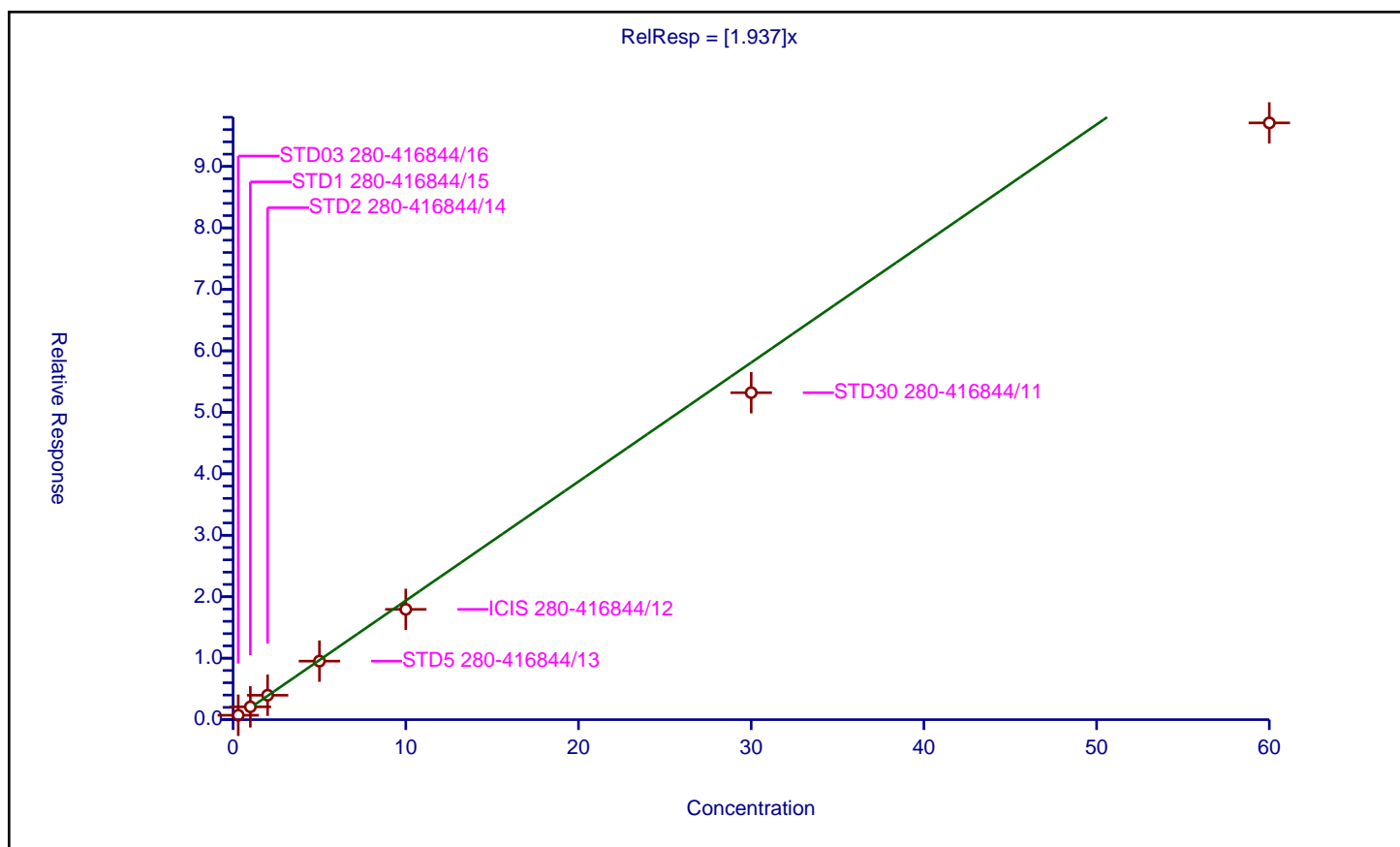
### Curve Coefficients

Intercept: 0  
 Slope: 1.937

### Error Coefficients

Standard Error: 904000  
 Relative Standard Error: 13.1  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.975

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.718455	12.5	257845.0	2.39485	Y
2	STD1 280-416844/15	1.0	2.085165	12.5	255939.0	2.085165	Y
3	STD2 280-416844/14	2.0	3.971995	12.5	272382.0	1.985998	Y
4	STD5 280-416844/13	5.0	9.521525	12.5	264225.0	1.904305	Y
5	ICIS 280-416844/12	10.0	17.942506	12.5	267115.0	1.794251	Y
6	STD30 280-416844/11	30.0	53.192316	12.5	240331.0	1.773077	Y
7	STD60 280-416844/10	60.0	97.085462	12.5	246407.0	1.618091	Y





## Calibration

/ Chlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

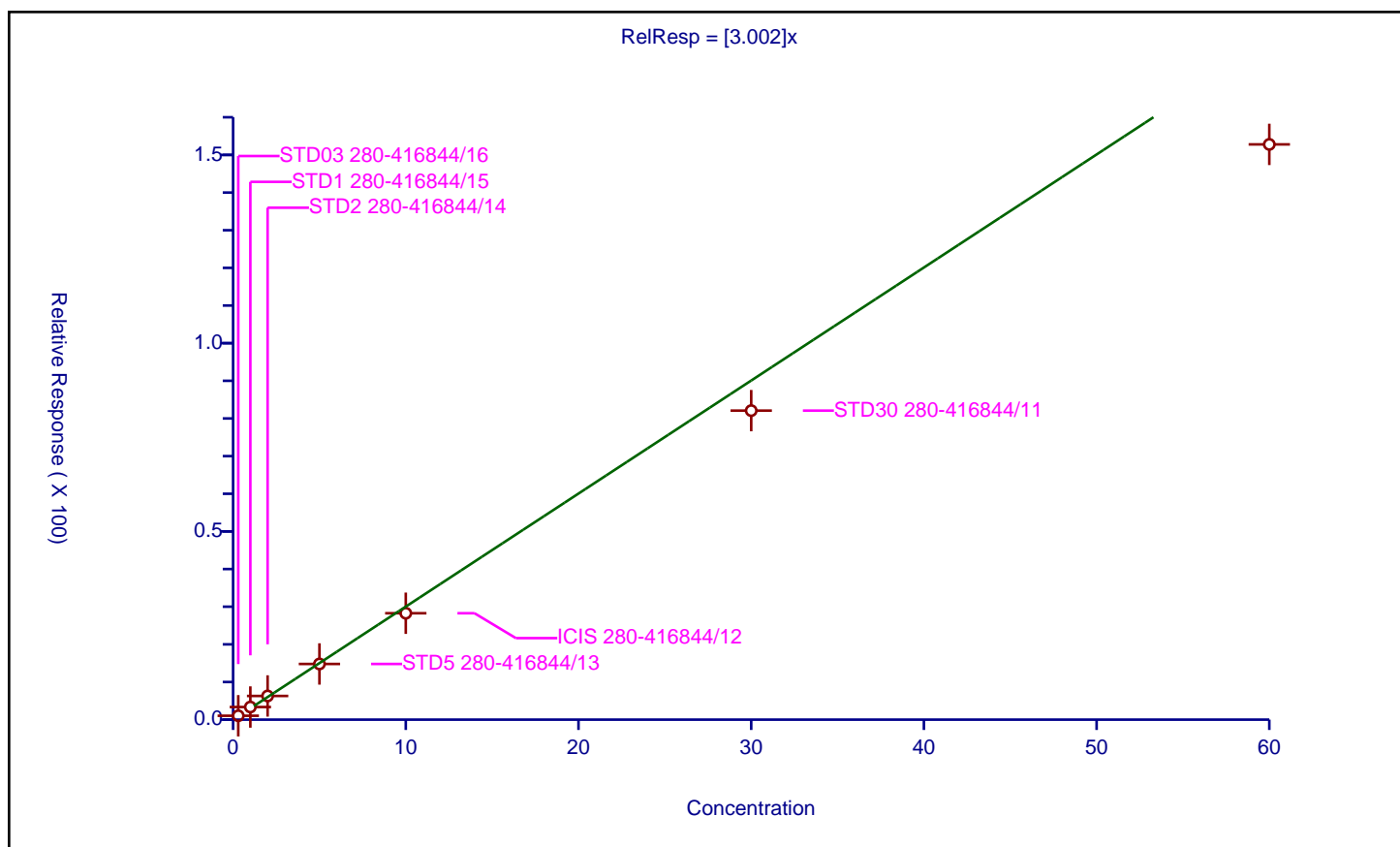
### Curve Coefficients

Intercept: 0  
 Slope: 3.002

### Error Coefficients

Standard Error: 1420000  
 Relative Standard Error: 11.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.036185	12.5	257845.0	3.453948	Y
2	STD1 280-416844/15	1.0	3.350701	12.5	255939.0	3.350701	Y
3	STD2 280-416844/14	2.0	6.291027	12.5	272382.0	3.145513	Y
4	STD5 280-416844/13	5.0	14.787113	12.5	264225.0	2.957423	Y
5	ICIS 280-416844/12	10.0	28.264792	12.5	267115.0	2.826479	Y
6	STD30 280-416844/11	30.0	82.078259	12.5	240331.0	2.735942	Y
7	STD60 280-416844/10	60.0	152.794361	12.5	246407.0	2.546573	Y





## Calibration

/ Ethylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

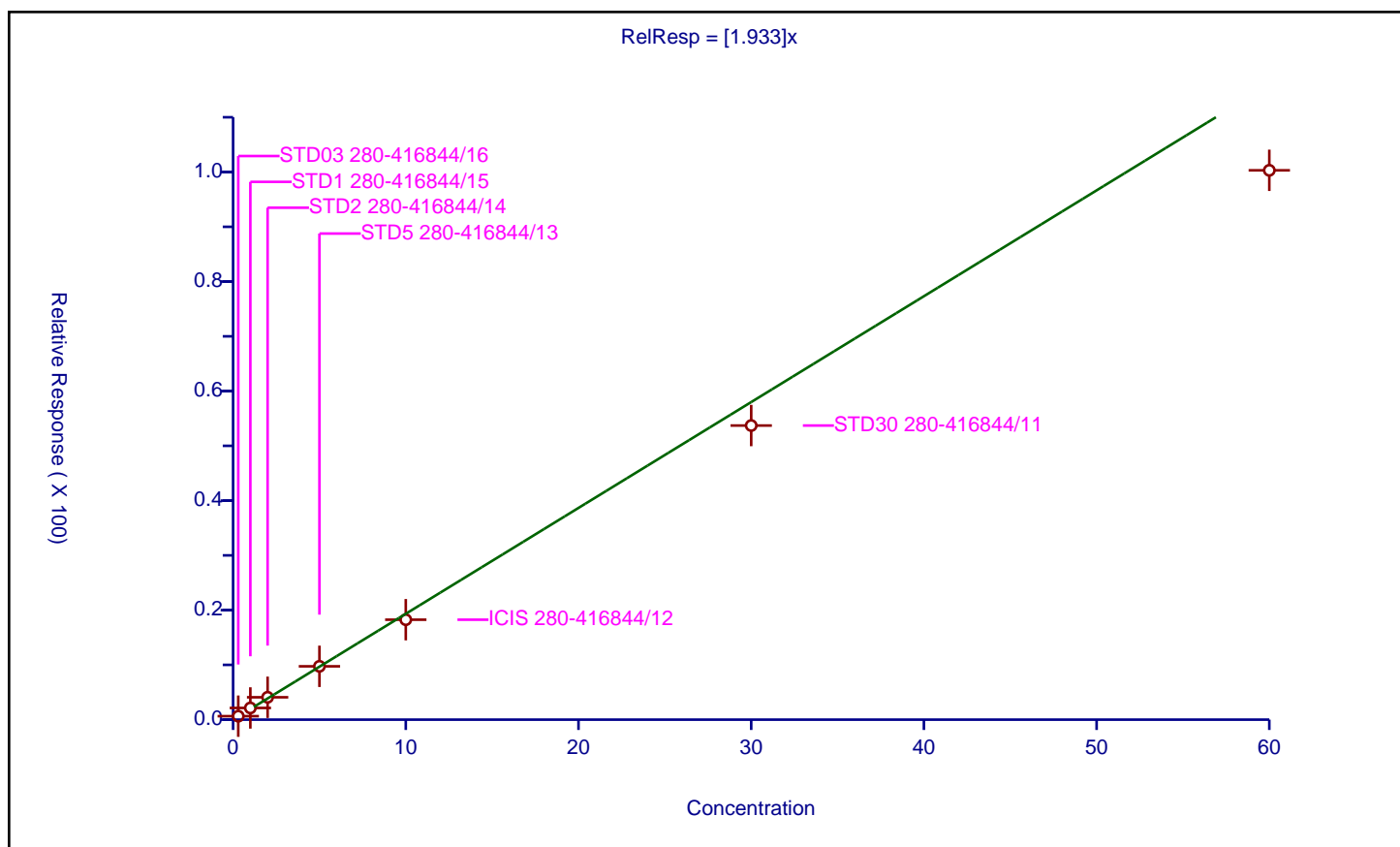
### Curve Coefficients

Intercept: 0  
 Slope: 1.933

### Error Coefficients

Standard Error: 929000  
 Relative Standard Error: 9.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.635702	12.5	257845.0	2.119006	Y
2	STD1 280-416844/15	1.0	2.136202	12.5	255939.0	2.136202	Y
3	STD2 280-416844/14	2.0	4.082318	12.5	272382.0	2.041159	Y
4	STD5 280-416844/13	5.0	9.739474	12.5	264225.0	1.947895	Y
5	ICIS 280-416844/12	10.0	18.250005	12.5	267115.0	1.825	Y
6	STD30 280-416844/11	30.0	53.704838	12.5	240331.0	1.790161	Y
7	STD60 280-416844/10	60.0	100.311832	12.5	246407.0	1.671864	Y





## Calibration

/ 1,1,1,2-Tetrachloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

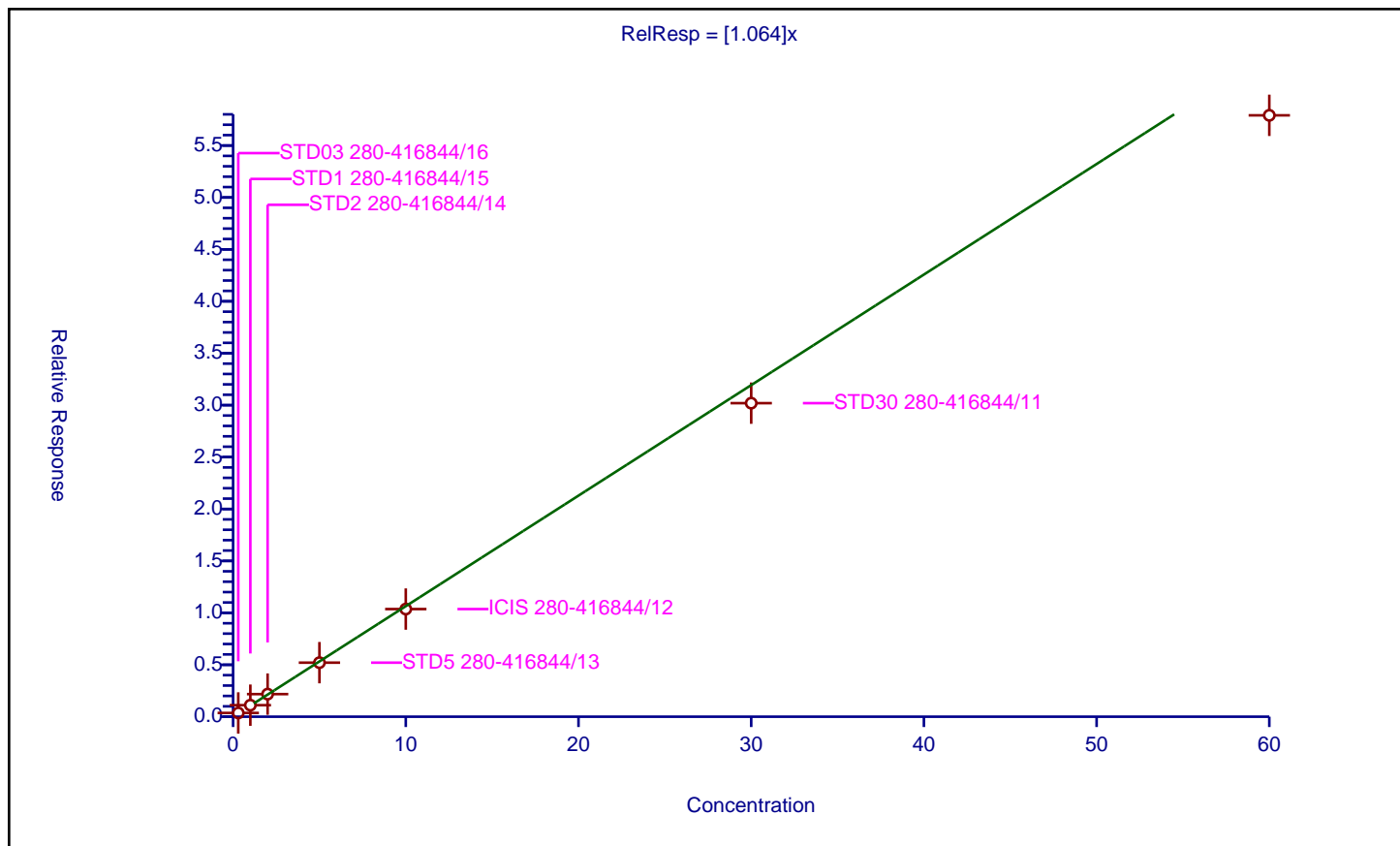
### Curve Coefficients

Intercept: 0  
 Slope: 1.064

### Error Coefficients

Standard Error: 533000  
 Relative Standard Error: 7.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.360876	12.5	257845.0	1.202919	Y
2	STD1 280-416844/15	1.0	1.111251	12.5	255939.0	1.111251	Y
3	STD2 280-416844/14	2.0	2.174933	12.5	272382.0	1.087466	Y
4	STD5 280-416844/13	5.0	5.205081	12.5	264225.0	1.041016	Y
5	ICIS 280-416844/12	10.0	10.364263	12.5	267115.0	1.036426	Y
6	STD30 280-416844/11	30.0	30.190966	12.5	240331.0	1.006366	Y
7	STD60 280-416844/10	60.0	57.906939	12.5	246407.0	0.965116	Y





## Calibration

/ m-Xylene & p-Xylene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

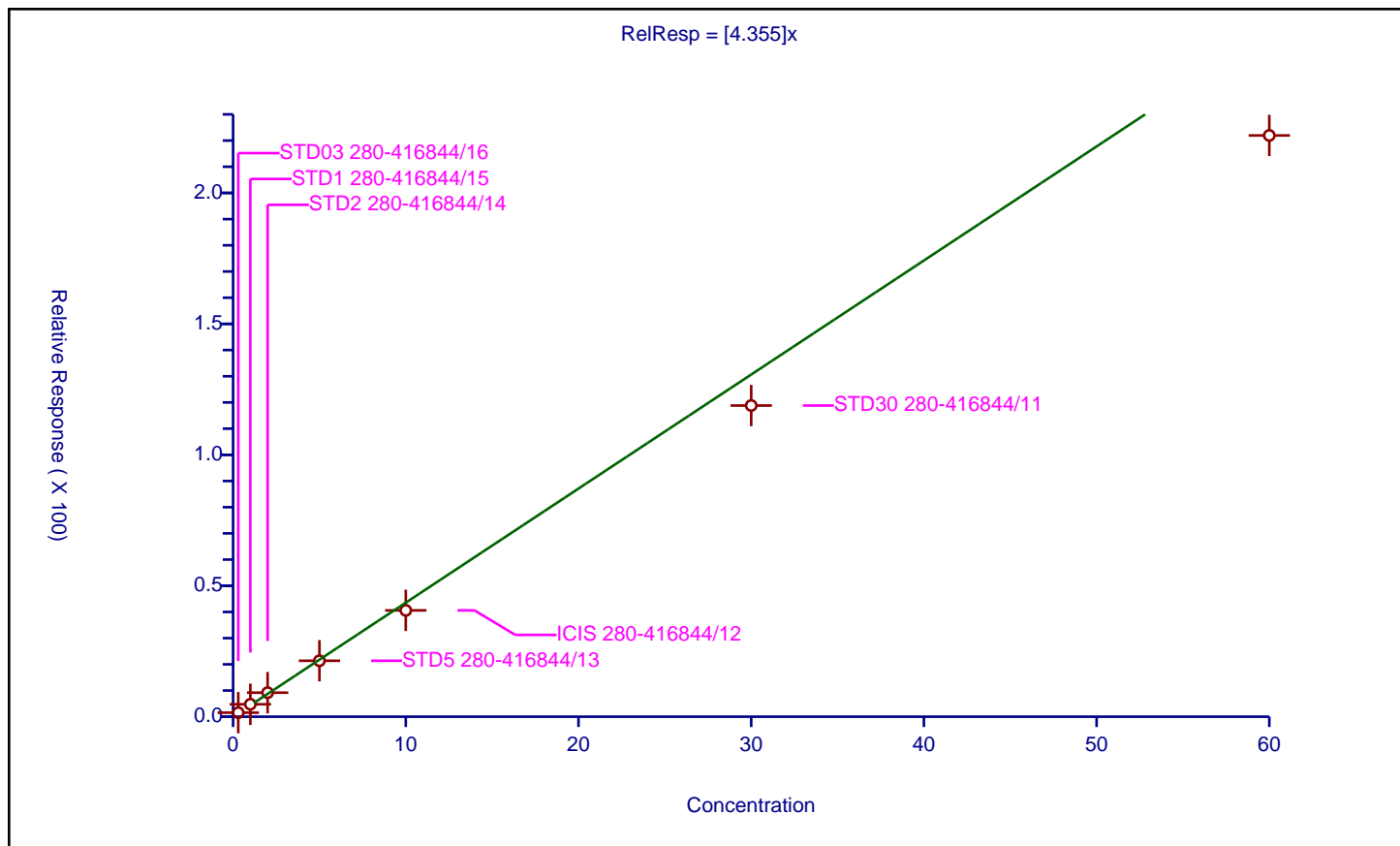
### Curve Coefficients

Intercept: 0  
 Slope: 4.355

### Error Coefficients

Standard Error: 2060000  
 Relative Standard Error: 11.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.54526	12.5	257845.0	5.150866	Y
2	STD1 280-416844/15	1.0	4.749081	12.5	255939.0	4.749081	Y
3	STD2 280-416844/14	2.0	9.183334	12.5	272382.0	4.591667	Y
4	STD5 280-416844/13	5.0	21.369761	12.5	264225.0	4.273952	Y
5	ICIS 280-416844/12	10.0	40.598665	12.5	267115.0	4.059867	Y
6	STD30 280-416844/11	30.0	118.816913	12.5	240331.0	3.960564	Y
7	STD60 280-416844/10	60.0	221.945095	12.5	246407.0	3.699085	Y





# Calibration

/ o-Xylene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

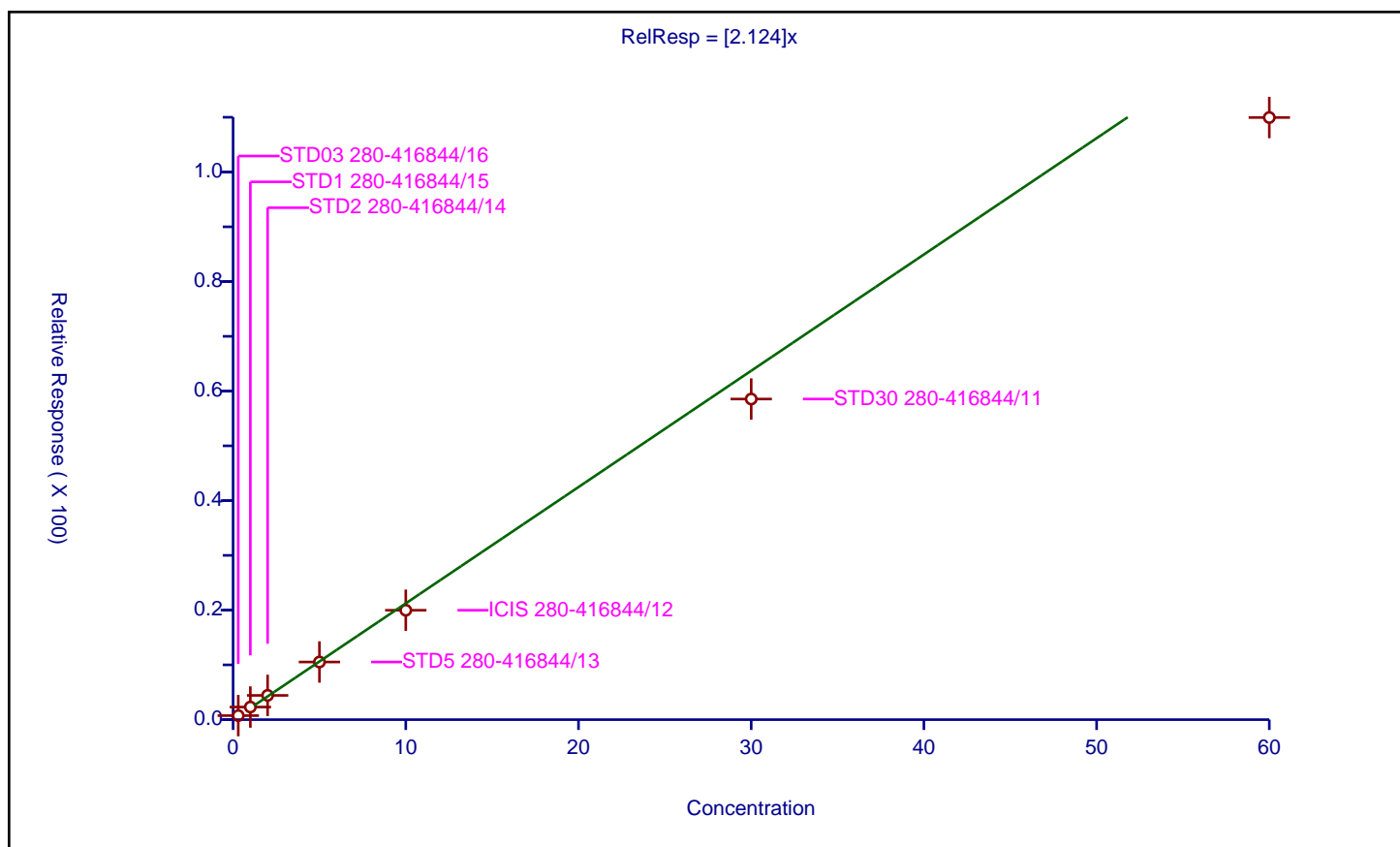
## Curve Coefficients

Intercept: 0  
 Slope: 2.124

## Error Coefficients

Standard Error: 1020000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.738719	12.5	257845.0	2.462397	Y
2	STD1 280-416844/15	1.0	2.300255	12.5	255939.0	2.300255	Y
3	STD2 280-416844/14	2.0	4.431001	12.5	272382.0	2.215501	Y
4	STD5 280-416844/13	5.0	10.524316	12.5	264225.0	2.104863	Y
5	ICIS 280-416844/12	10.0	19.976883	12.5	267115.0	1.997688	Y
6	STD30 280-416844/11	30.0	58.547534	12.5	240331.0	1.951584	Y
7	STD60 280-416844/10	60.0	109.955328	12.5	246407.0	1.832589	Y





## Calibration

/ Styrene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

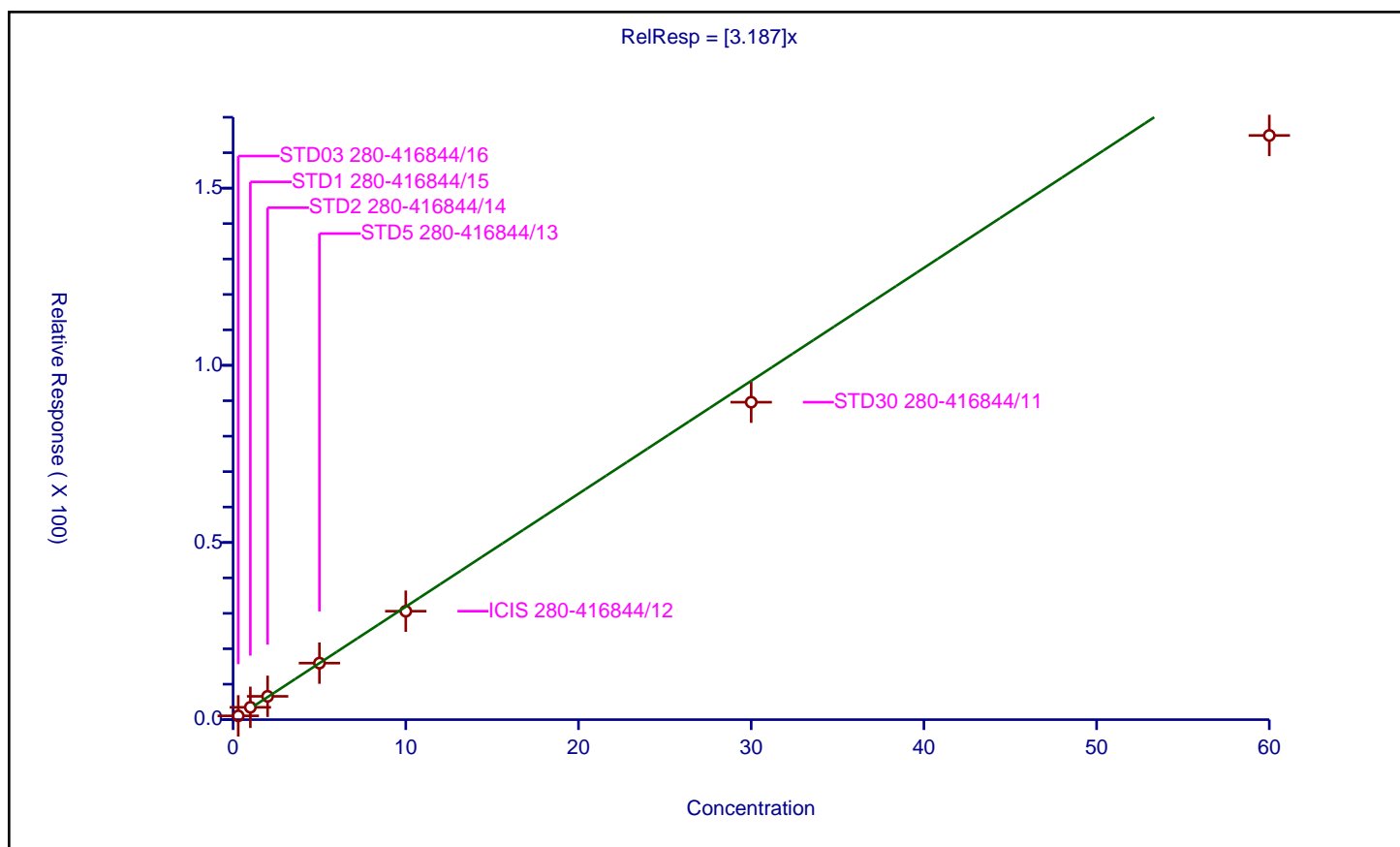
### Curve Coefficients

Intercept: 0  
 Slope: 3.187

### Error Coefficients

Standard Error: 1530000  
 Relative Standard Error: 8.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.064981	12.5	257845.0	3.549936	Y
2	STD1 280-416844/15	1.0	3.483398	12.5	255939.0	3.483398	Y
3	STD2 280-416844/14	2.0	6.582713	12.5	272382.0	3.291356	Y
4	STD5 280-416844/13	5.0	15.957707	12.5	264225.0	3.191541	Y
5	ICIS 280-416844/12	10.0	30.607978	12.5	267115.0	3.060798	Y
6	STD30 280-416844/11	30.0	89.584625	12.5	240331.0	2.986154	Y
7	STD60 280-416844/10	60.0	164.868946	12.5	246407.0	2.747816	Y





# Calibration

/ Bromoform

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

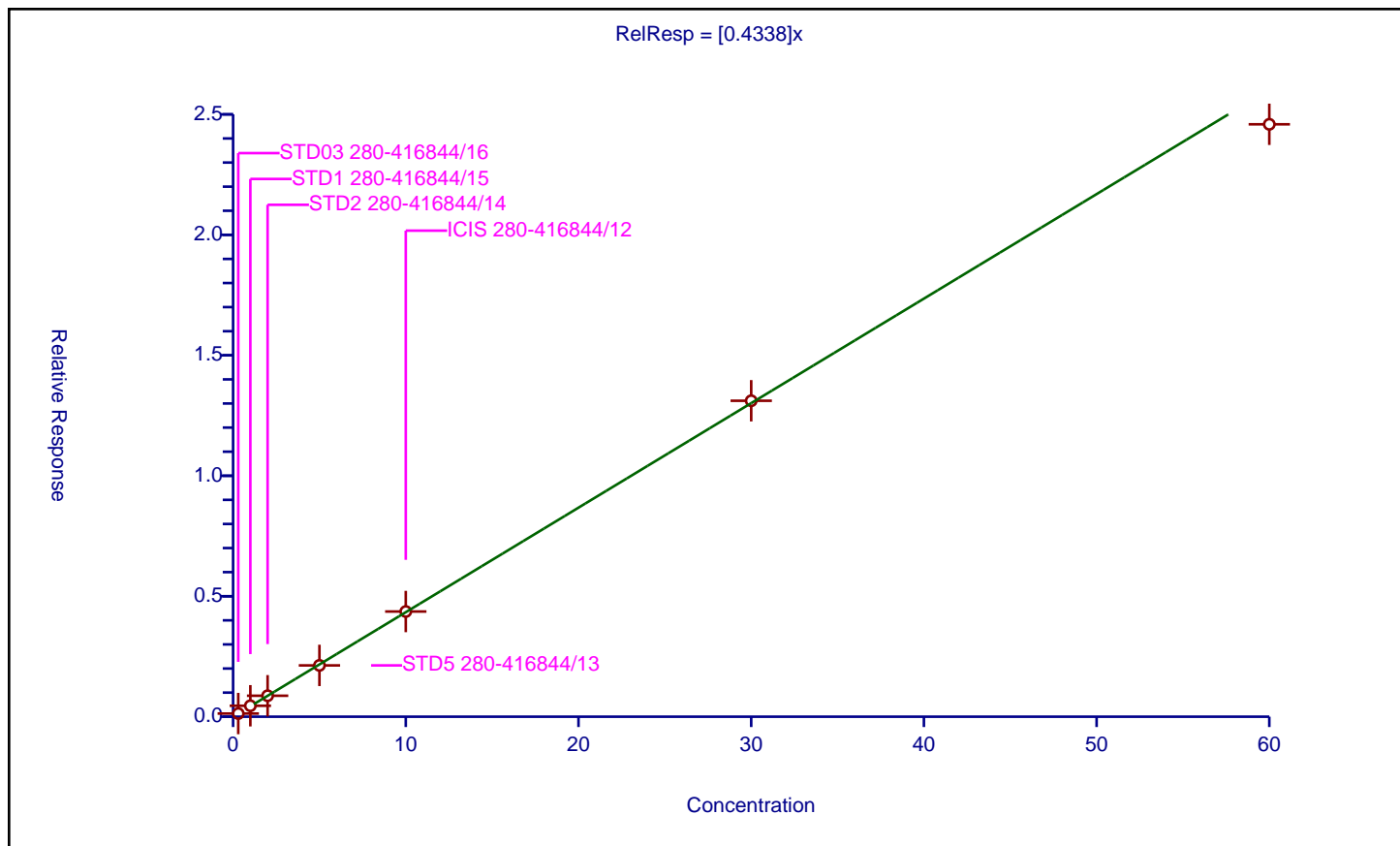
## Curve Coefficients

Intercept: 0  
 Slope: 0.4338

## Error Coefficients

Standard Error: 227000  
 Relative Standard Error: 3.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.131329	12.5	257845.0	0.437763	Y
2	STD1 280-416844/15	1.0	0.454307	12.5	255939.0	0.454307	Y
3	STD2 280-416844/14	2.0	0.870239	12.5	272382.0	0.43512	Y
4	STD5 280-416844/13	5.0	2.13005	12.5	264225.0	0.42601	Y
5	ICIS 280-416844/12	10.0	4.365863	12.5	267115.0	0.436586	Y
6	STD30 280-416844/11	30.0	13.113009	12.5	240331.0	0.4371	Y
7	STD60 280-416844/10	60.0	24.587268	12.5	246407.0	0.409788	Y





## Calibration

/ Isopropylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

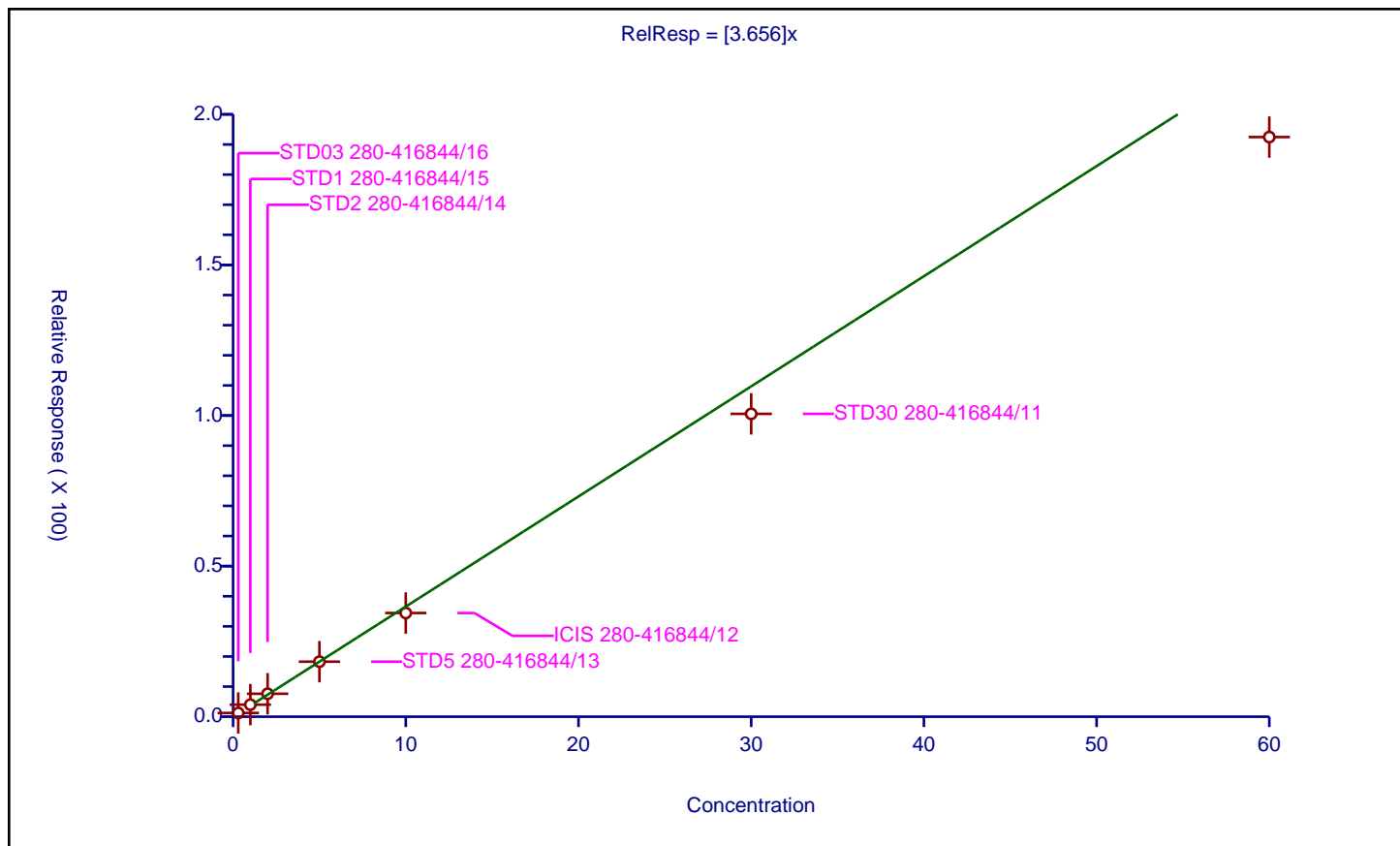
### Curve Coefficients

Intercept: 0  
 Slope: 3.656

### Error Coefficients

Standard Error: 2670000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.236327	12.5	399065.0	4.121091	Y
2	STD1 280-416844/15	1.0	4.005118	12.5	384895.0	4.005118	Y
3	STD2 280-416844/14	2.0	7.625339	12.5	416370.0	3.81267	Y
4	STD5 280-416844/13	5.0	18.268558	12.5	401697.0	3.653712	Y
5	ICIS 280-416844/12	10.0	34.426272	12.5	406595.0	3.442627	Y
6	STD30 280-416844/11	30.0	100.555867	12.5	367804.0	3.351862	Y
7	STD60 280-416844/10	60.0	192.461583	12.5	369038.0	3.207693	Y





## Calibration

/ Cyclohexanone

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

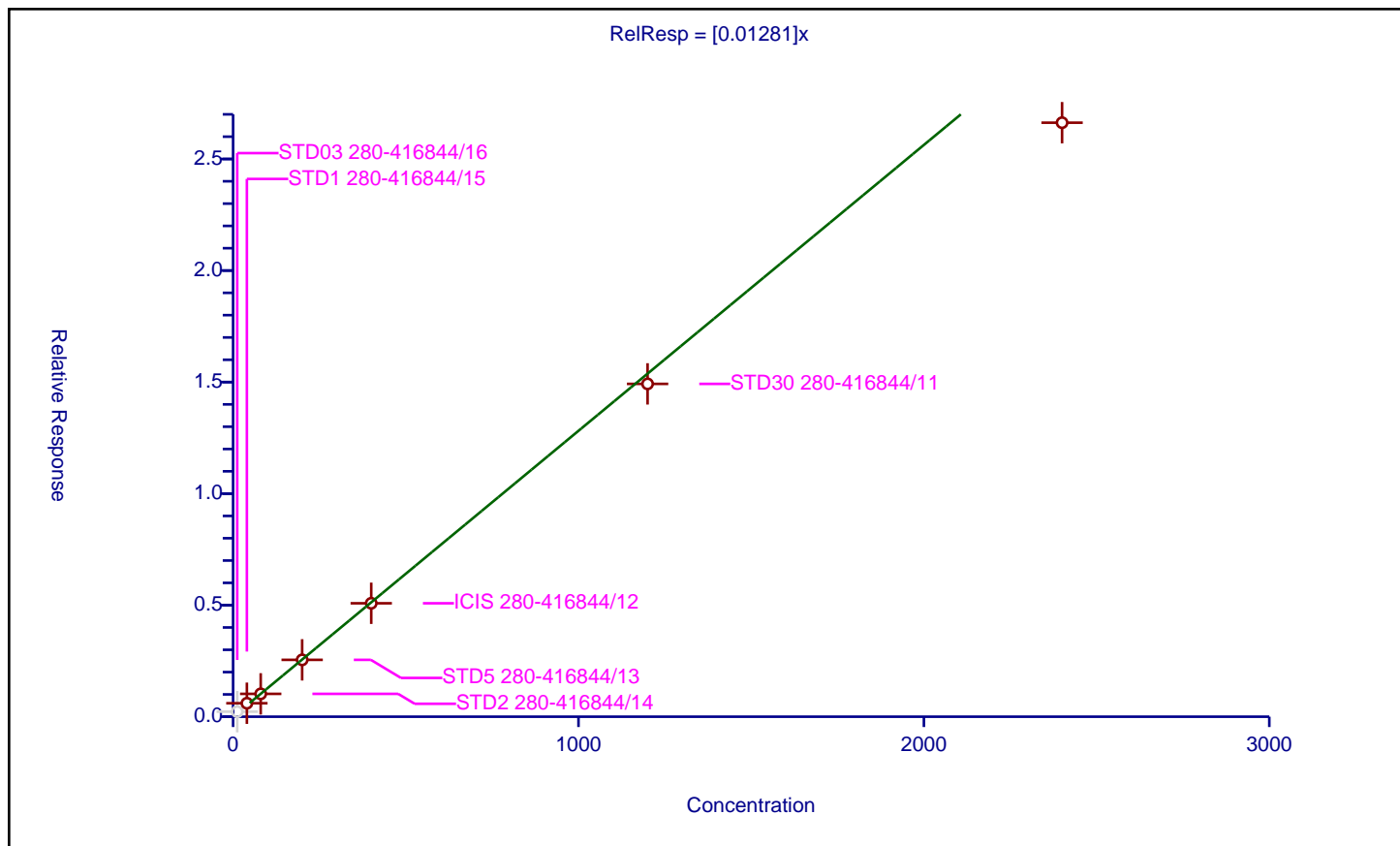
## Curve Coefficients

Intercept: 0  
Slope: 0.01281

## Error Coefficients

Standard Error: 273000  
Relative Standard Error: 10.1  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	12.0	0.226977	12.5	257845.0	0.018915	N
2	STD1 280-416844/15	40.0	0.603708	12.5	255939.0	0.015093	Y
3	STD2 280-416844/14	80.0	1.025031	12.5	272382.0	0.012813	Y
4	STD5 280-416844/13	200.0	2.548869	12.5	264225.0	0.012744	Y
5	ICIS 280-416844/12	400.0	5.084842	12.5	267115.0	0.012712	Y
6	STD30 280-416844/11	1200.0	14.919164	12.5	240331.0	0.012433	Y
7	STD60 280-416844/10	2400.0	26.626476	12.5	246407.0	0.011094	Y





## Calibration

/ 4-Bromofluorobenzene (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

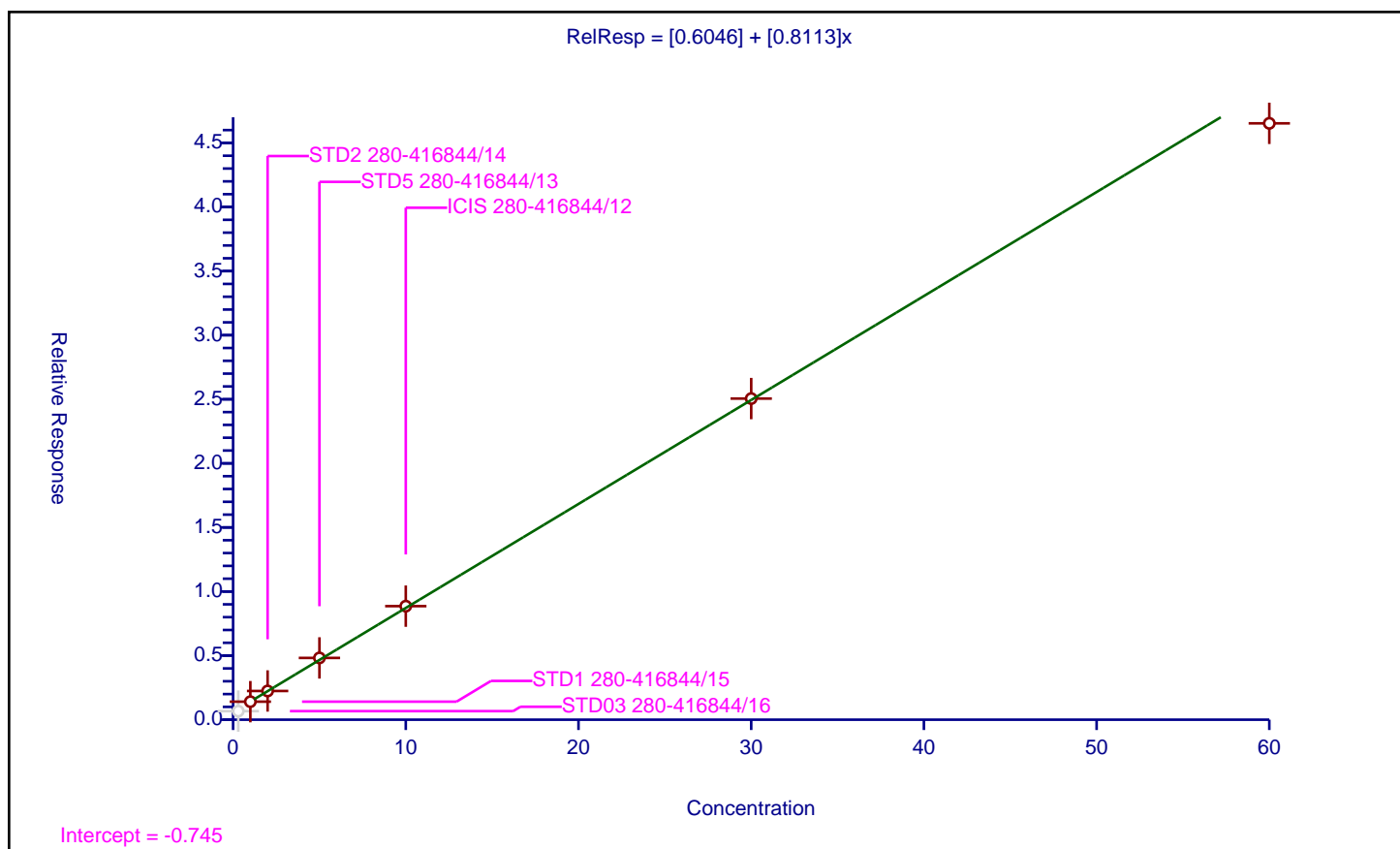
### Curve Coefficients

Intercept: 0.6046  
 Slope: 0.8113

### Error Coefficients

Standard Error: 798000  
 Relative Standard Error: 3.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.668124	12.5	399065.0	2.227081	N
2	STD1 280-416844/15	1.0	1.405481	12.5	384895.0	1.405481	Y
3	STD2 280-416844/14	2.0	2.240375	12.5	416370.0	1.120188	Y
4	STD5 280-416844/13	5.0	4.820051	12.5	401697.0	0.96401	Y
5	ICIS 280-416844/12	10.0	8.859399	12.5	406595.0	0.88594	Y
6	STD30 280-416844/11	30.0	25.054309	12.5	367804.0	0.835144	Y
7	STD60 280-416844/10	60.0	46.527458	12.5	369038.0	0.775458	Y





## Calibration

/ 1,1,2,2-Tetrachloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

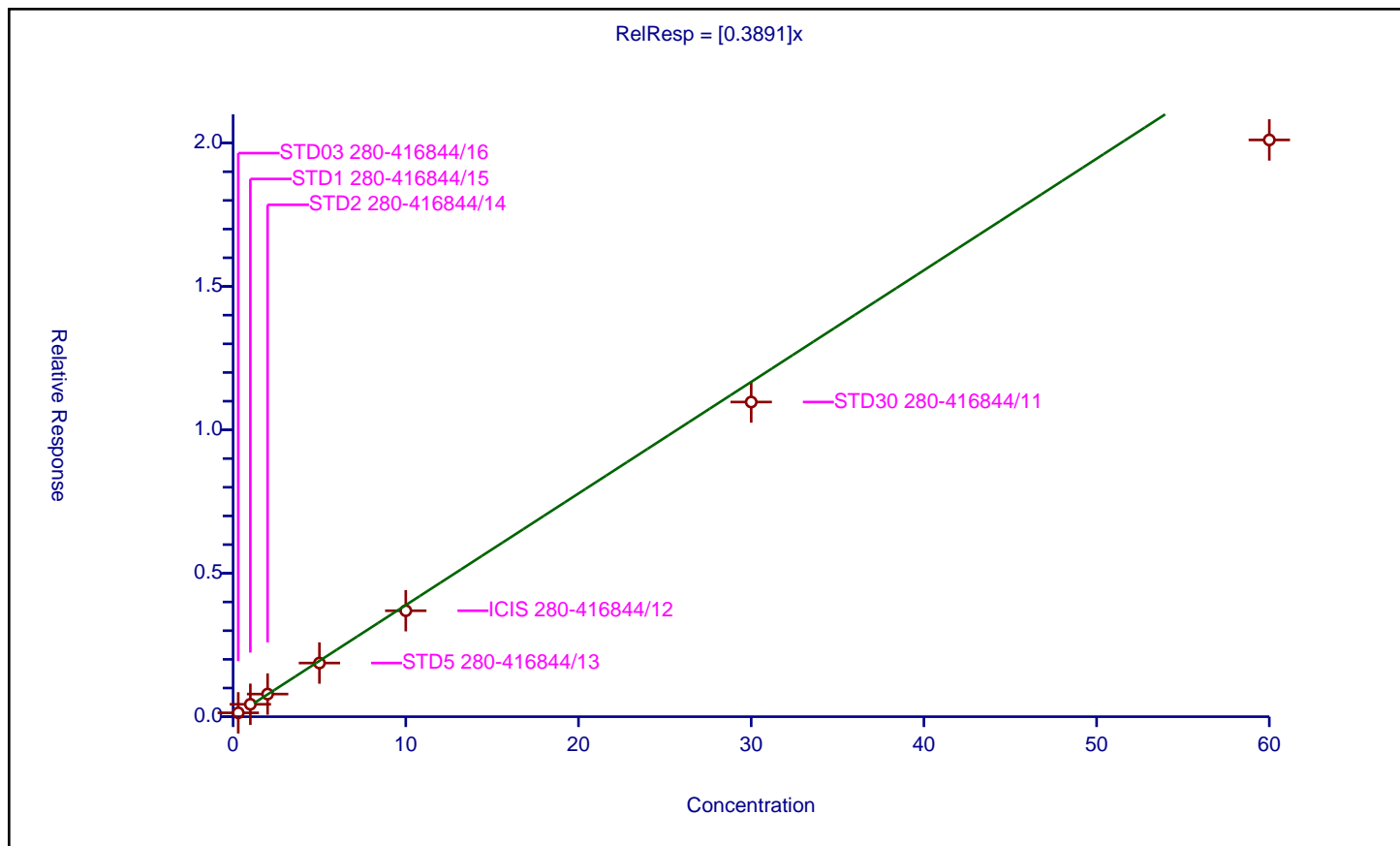
### Curve Coefficients

Intercept: 0  
 Slope: 0.3891

### Error Coefficients

Standard Error: 282000  
 Relative Standard Error: 10.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.135222	12.5	399065.0	0.450741	Y
2	STD1 280-416844/15	1.0	0.43369	12.5	384895.0	0.43369	Y
3	STD2 280-416844/14	2.0	0.789262	12.5	416370.0	0.394631	Y
4	STD5 280-416844/13	5.0	1.871684	12.5	401697.0	0.374337	Y
5	ICIS 280-416844/12	10.0	3.695077	12.5	406595.0	0.369508	Y
6	STD30 280-416844/11	30.0	10.970891	12.5	367804.0	0.365696	Y
7	STD60 280-416844/10	60.0	20.108702	12.5	369038.0	0.335145	Y





# Calibration

/ trans-1,4-Dichloro-2-butene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

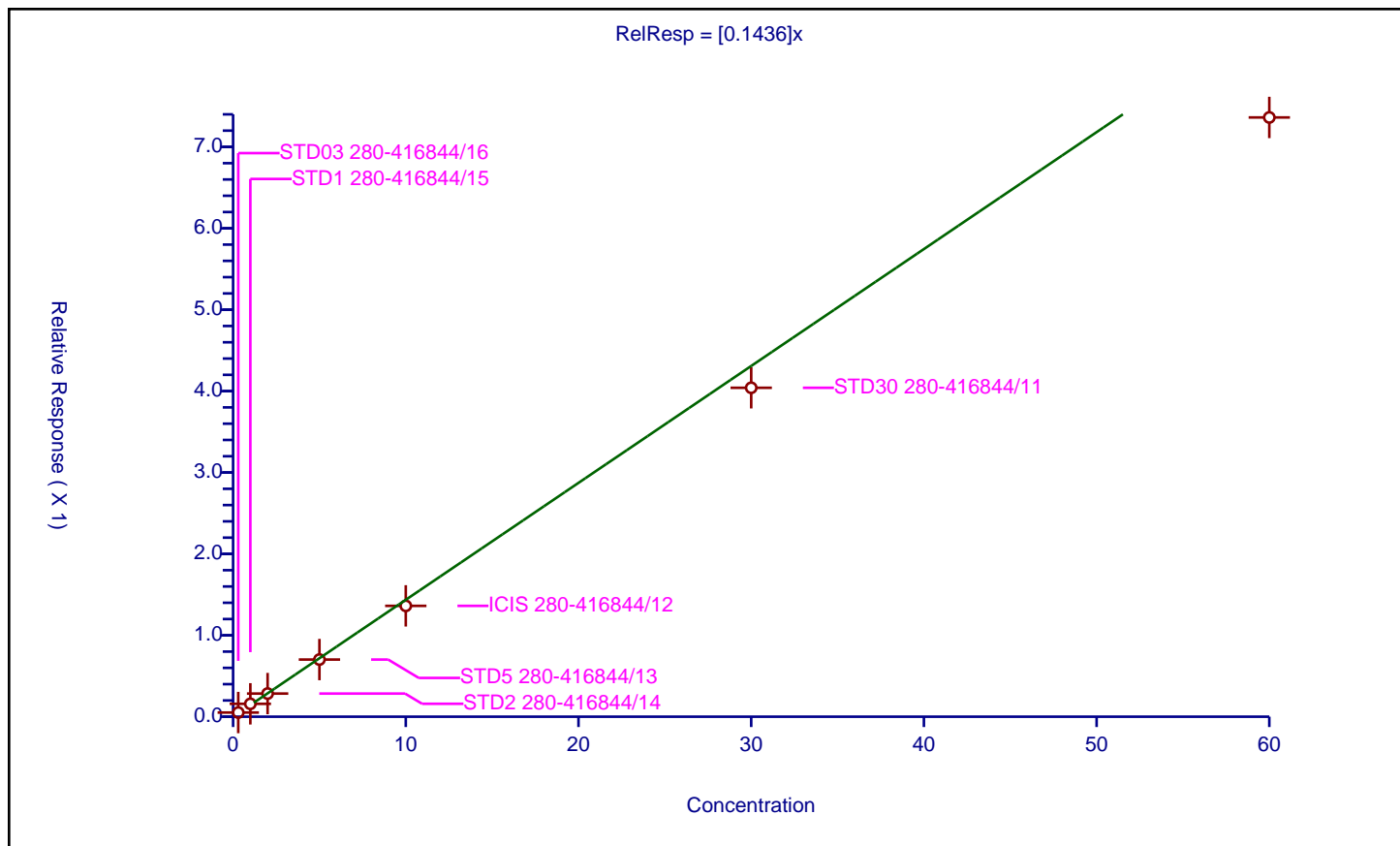
## Curve Coefficients

Intercept: 0  
 Slope: 0.1436

## Error Coefficients

Standard Error: 103000  
 Relative Standard Error: 11.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.982

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.051276	12.5	399065.0	0.17092	Y
2	STD1 280-416844/15	1.0	0.158257	12.5	384895.0	0.158257	Y
3	STD2 280-416844/14	2.0	0.284392	12.5	416370.0	0.142196	Y
4	STD5 280-416844/13	5.0	0.702239	12.5	401697.0	0.140448	Y
5	ICIS 280-416844/12	10.0	1.361705	12.5	406595.0	0.136171	Y
6	STD30 280-416844/11	30.0	4.040943	12.5	367804.0	0.134698	Y
7	STD60 280-416844/10	60.0	7.362182	12.5	369038.0	0.122703	Y





## Calibration

/ N-Propylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

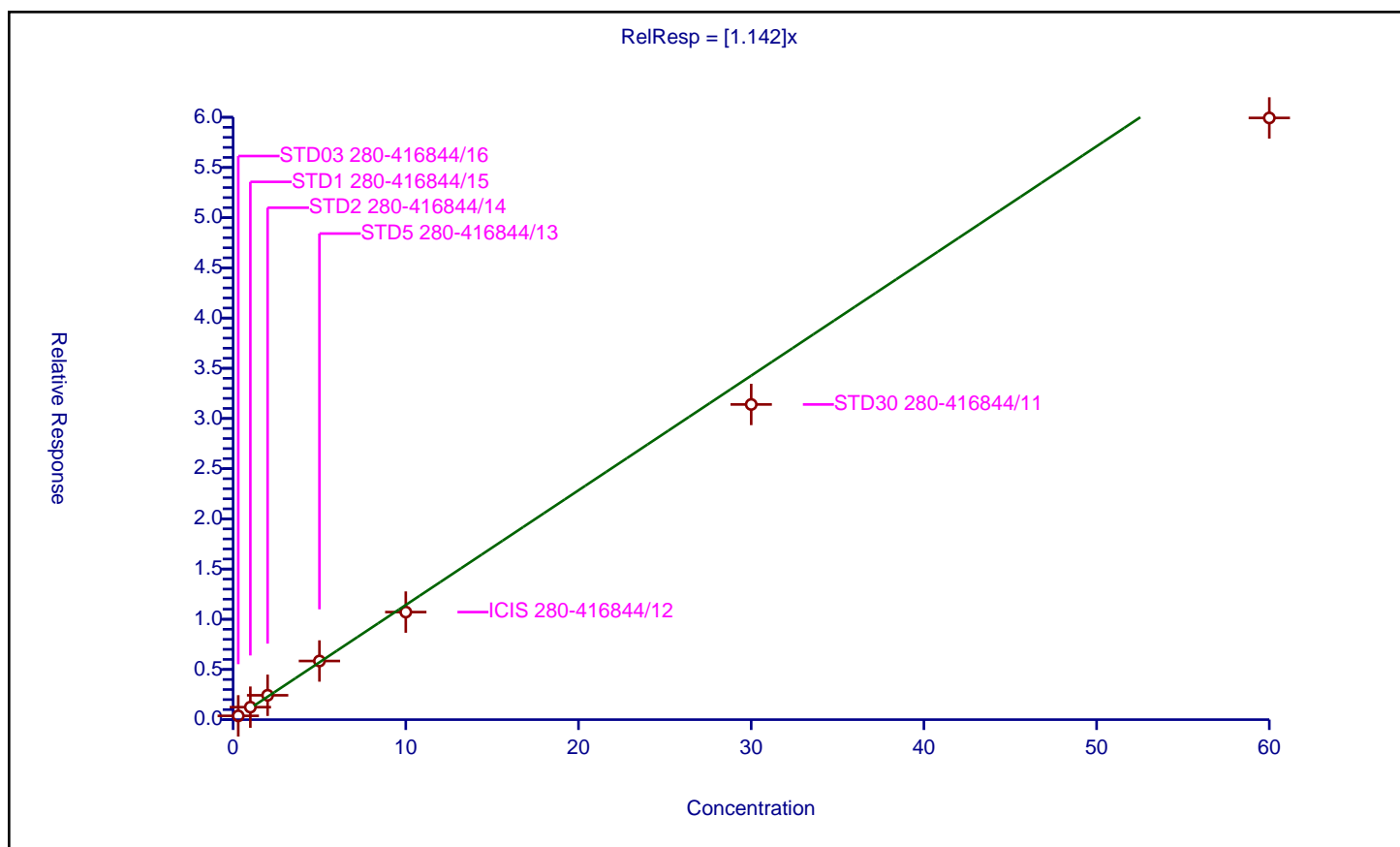
### Curve Coefficients

Intercept: 0  
 Slope: 1.142

### Error Coefficients

Standard Error: 832000  
 Relative Standard Error: 9.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.375879	12.5	399065.0	1.252929	Y
2	STD1 280-416844/15	1.0	1.244365	12.5	384895.0	1.244365	Y
3	STD2 280-416844/14	2.0	2.426237	12.5	416370.0	1.213119	Y
4	STD5 280-416844/13	5.0	5.840721	12.5	401697.0	1.168144	Y
5	ICIS 280-416844/12	10.0	10.714716	12.5	406595.0	1.071472	Y
6	STD30 280-416844/11	30.0	31.394234	12.5	367804.0	1.046474	Y
7	STD60 280-416844/10	60.0	59.934343	12.5	369038.0	0.998906	Y





## Calibration

/ 1,2,3-Trichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

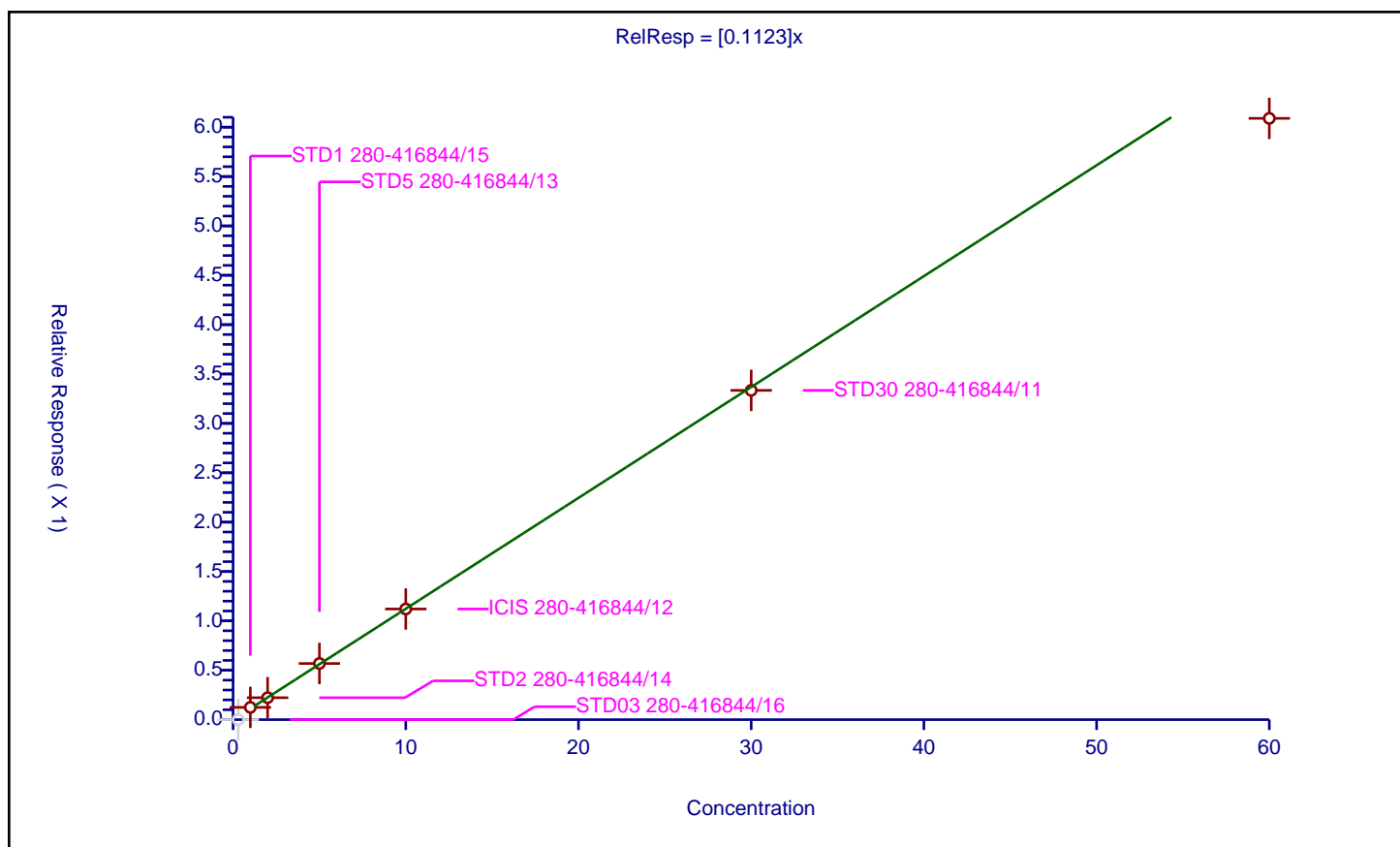
### Curve Coefficients

Intercept: 0  
 Slope: 0.1123

### Error Coefficients

Standard Error: 93500  
 Relative Standard Error: 6.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.0	12.5	399065.0	0.0	N
2	STD1 280-416844/15	1.0	0.12406	12.5	384895.0	0.12406	Y
3	STD2 280-416844/14	2.0	0.222368	12.5	416370.0	0.111184	Y
4	STD5 280-416844/13	5.0	0.56865	12.5	401697.0	0.11373	Y
5	ICIS 280-416844/12	10.0	1.120495	12.5	406595.0	0.112049	Y
6	STD30 280-416844/11	30.0	3.334589	12.5	367804.0	0.111153	Y
7	STD60 280-416844/10	60.0	6.08877	12.5	369038.0	0.101479	Y





# Calibration

/ Bromobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

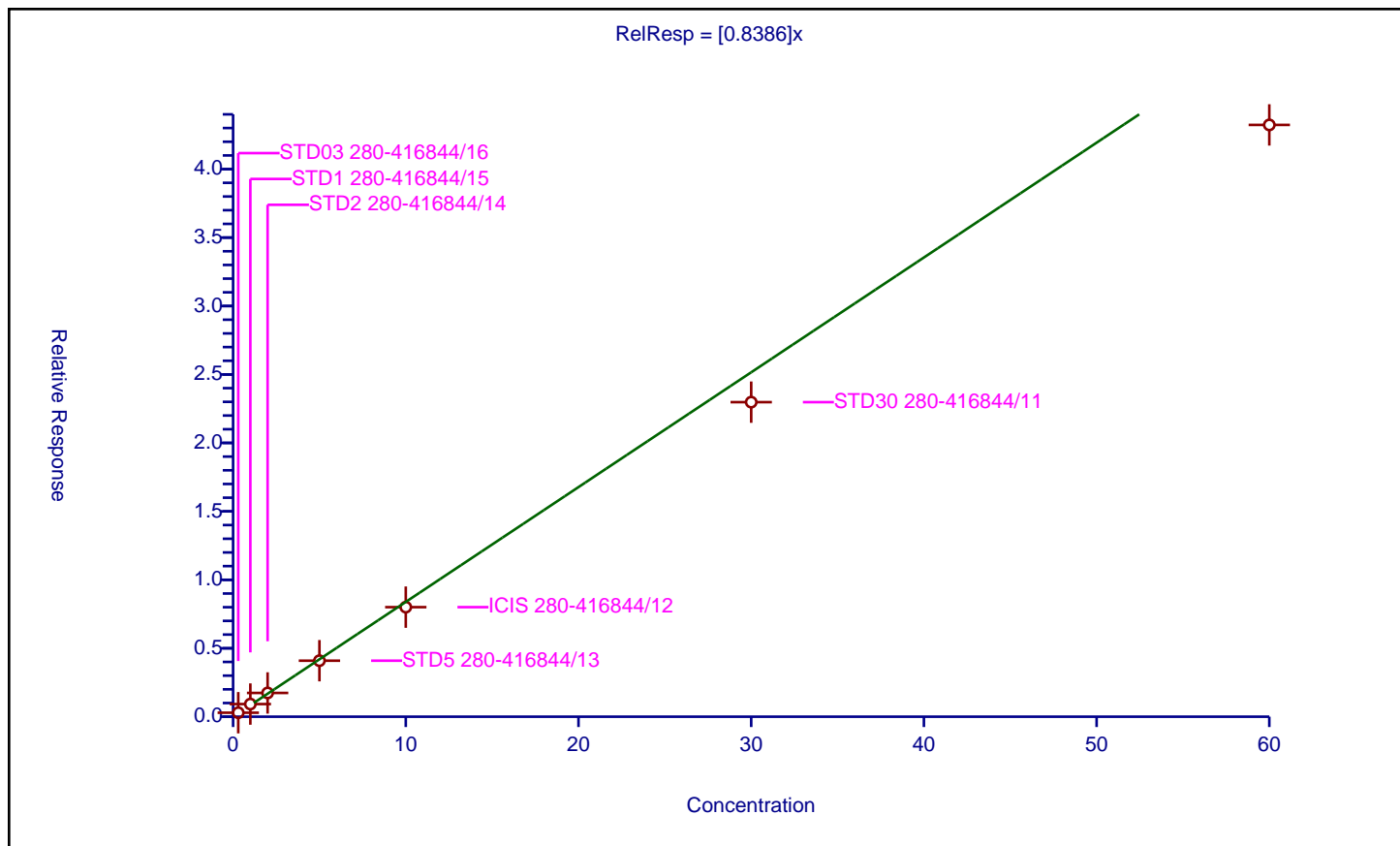
## Curve Coefficients

Intercept: 0  
 Slope: 0.8386

## Error Coefficients

Standard Error: 602000  
 Relative Standard Error: 10.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.292152	12.5	399065.0	0.973839	Y
2	STD1 280-416844/15	1.0	0.923596	12.5	384895.0	0.923596	Y
3	STD2 280-416844/14	2.0	1.735446	12.5	416370.0	0.867723	Y
4	STD5 280-416844/13	5.0	4.092108	12.5	401697.0	0.818422	Y
5	ICIS 280-416844/12	10.0	8.003634	12.5	406595.0	0.800363	Y
6	STD30 280-416844/11	30.0	22.977965	12.5	367804.0	0.765932	Y
7	STD60 280-416844/10	60.0	43.228746	12.5	369038.0	0.720479	Y





# Calibration

/ 1,3,5-Trimethylbenzene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

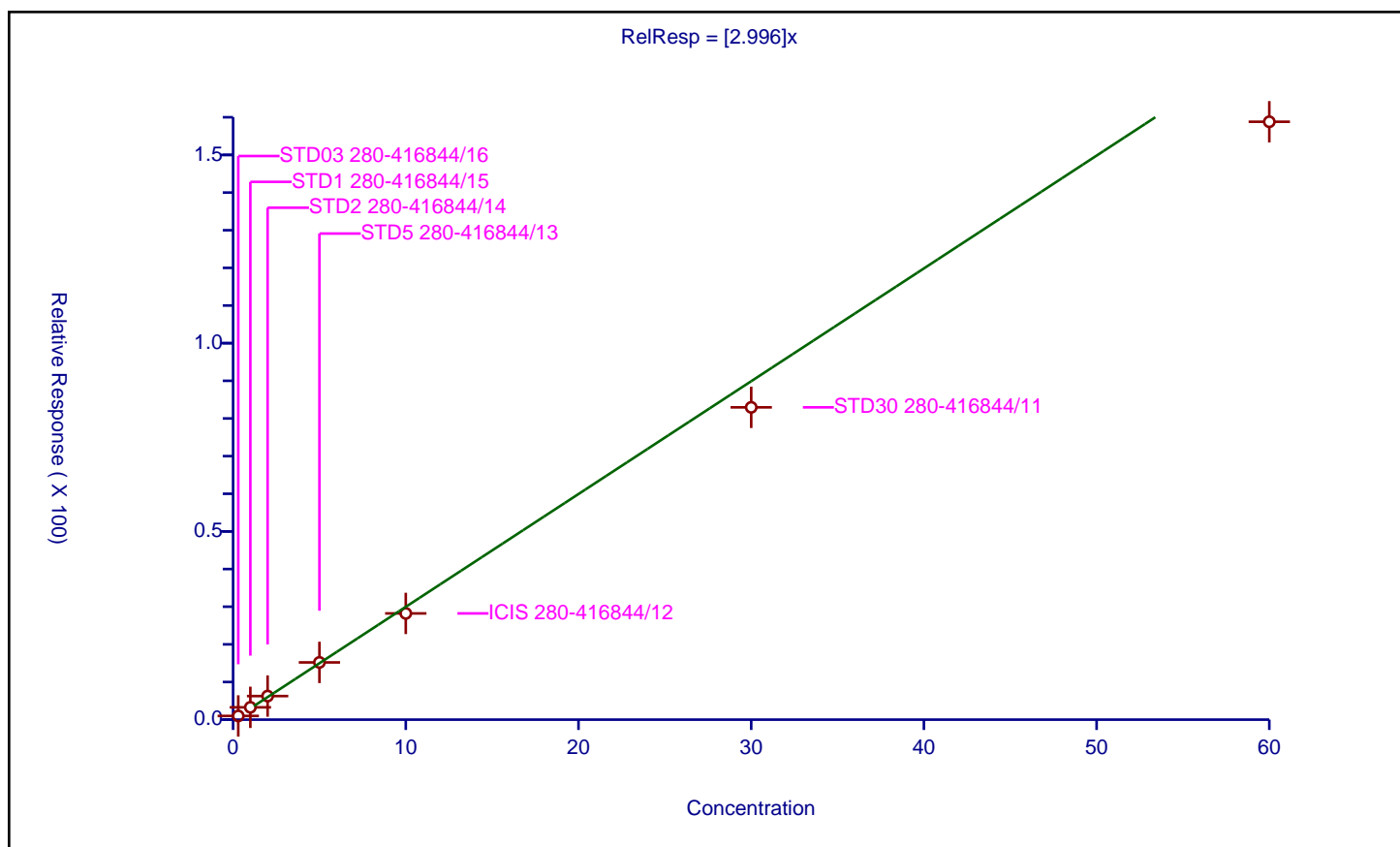
## Curve Coefficients

Intercept: 0  
Slope: 2.996

## Error Coefficients

Standard Error: 2200000  
Relative Standard Error: 8.5  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.987934	12.5	399065.0	3.293114	Y
2	STD1 280-416844/15	1.0	3.27401	12.5	384895.0	3.27401	Y
3	STD2 280-416844/14	2.0	6.266602	12.5	416370.0	3.133301	Y
4	STD5 280-416844/13	5.0	15.200947	12.5	401697.0	3.040189	Y
5	ICIS 280-416844/12	10.0	28.218467	12.5	406595.0	2.821847	Y
6	STD30 280-416844/11	30.0	82.953557	12.5	367804.0	2.765119	Y
7	STD60 280-416844/10	60.0	158.805868	12.5	369038.0	2.646764	Y





# Calibration

/ 2-Chlorotoluene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

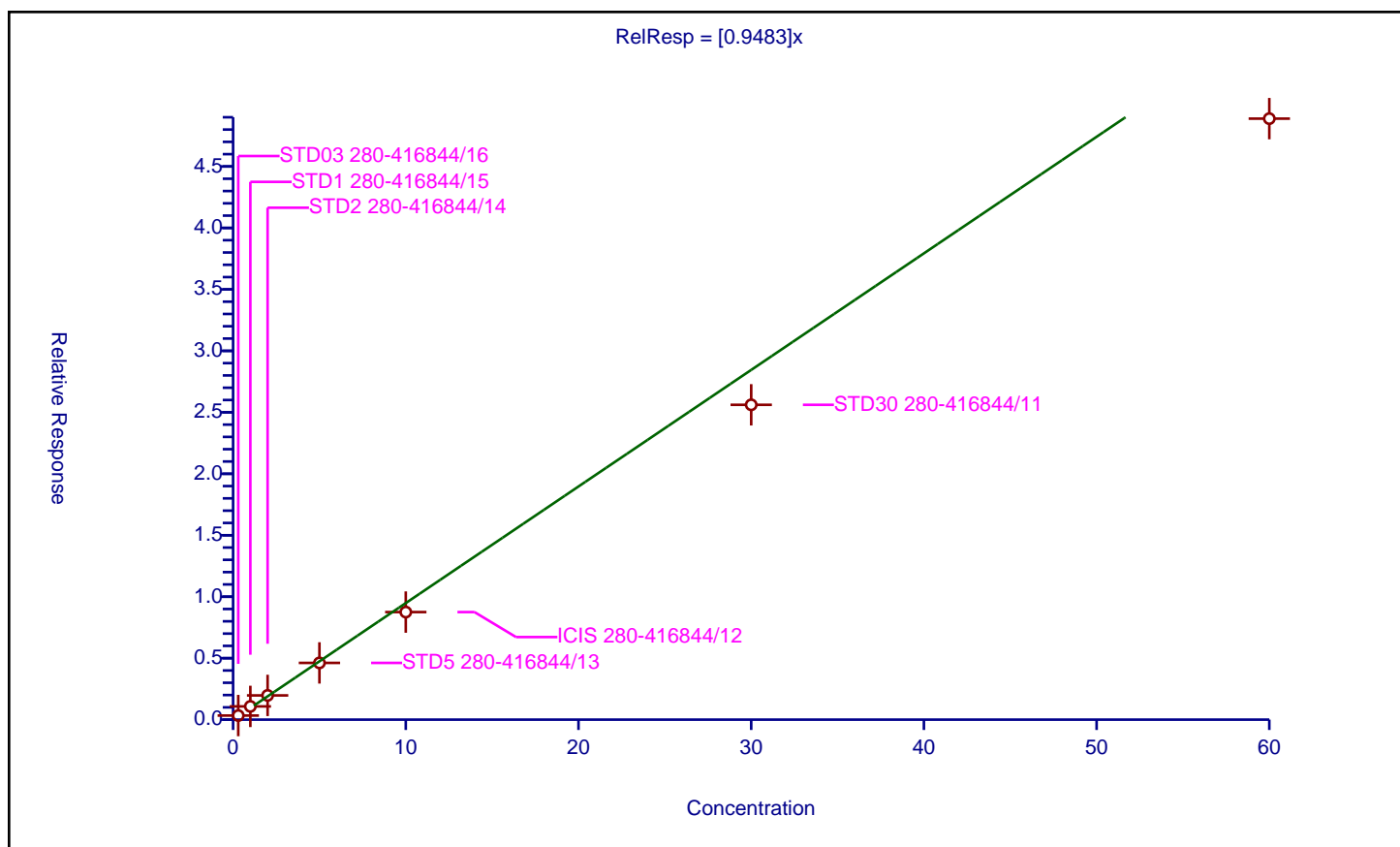
## Curve Coefficients

Intercept: 0  
 Slope: 0.9483

## Error Coefficients

Standard Error: 678000  
 Relative Standard Error: 11.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.332214	12.5	399065.0	1.10738	Y
2	STD1 280-416844/15	1.0	1.078379	12.5	384895.0	1.078379	Y
3	STD2 280-416844/14	2.0	1.970723	12.5	416370.0	0.985362	Y
4	STD5 280-416844/13	5.0	4.616135	12.5	401697.0	0.923227	Y
5	ICIS 280-416844/12	10.0	8.749616	12.5	406595.0	0.874962	Y
6	STD30 280-416844/11	30.0	25.610787	12.5	367804.0	0.853693	Y
7	STD60 280-416844/10	60.0	48.890223	12.5	369038.0	0.814837	Y





# Calibration

/ 4-Chlorotoluene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

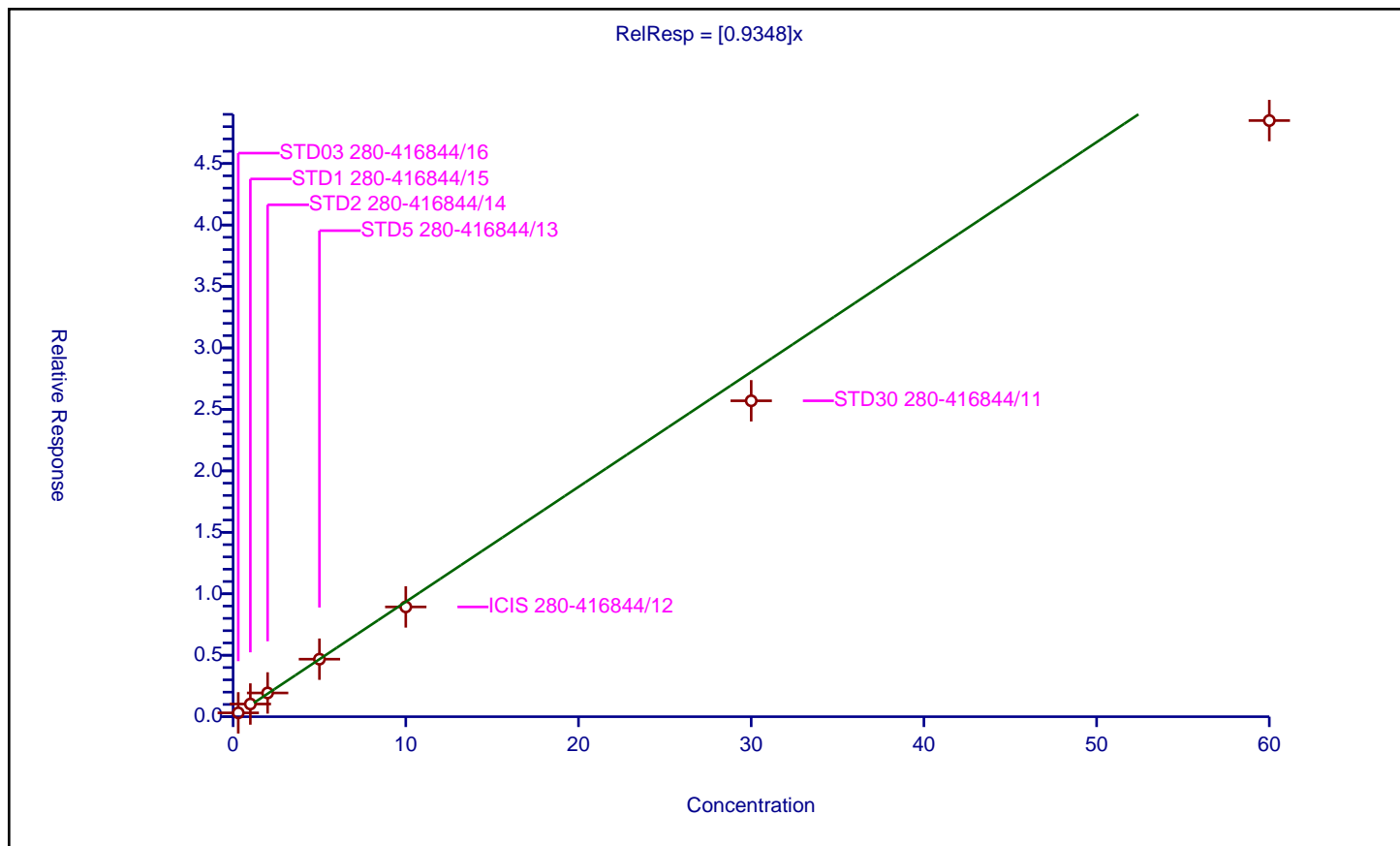
## Curve Coefficients

Intercept: 0  
 Slope: 0.9348

## Error Coefficients

Standard Error: 675000  
 Relative Standard Error: 9.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.314986	12.5	399065.0	1.049954	Y
2	STD1 280-416844/15	1.0	1.03223	12.5	384895.0	1.03223	Y
3	STD2 280-416844/14	2.0	1.933977	12.5	416370.0	0.966988	Y
4	STD5 280-416844/13	5.0	4.680642	12.5	401697.0	0.936128	Y
5	ICIS 280-416844/12	10.0	8.930539	12.5	406595.0	0.893054	Y
6	STD30 280-416844/11	30.0	25.699931	12.5	367804.0	0.856664	Y
7	STD60 280-416844/10	60.0	48.49653	12.5	369038.0	0.808276	Y





## Calibration

/ tert-Butylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

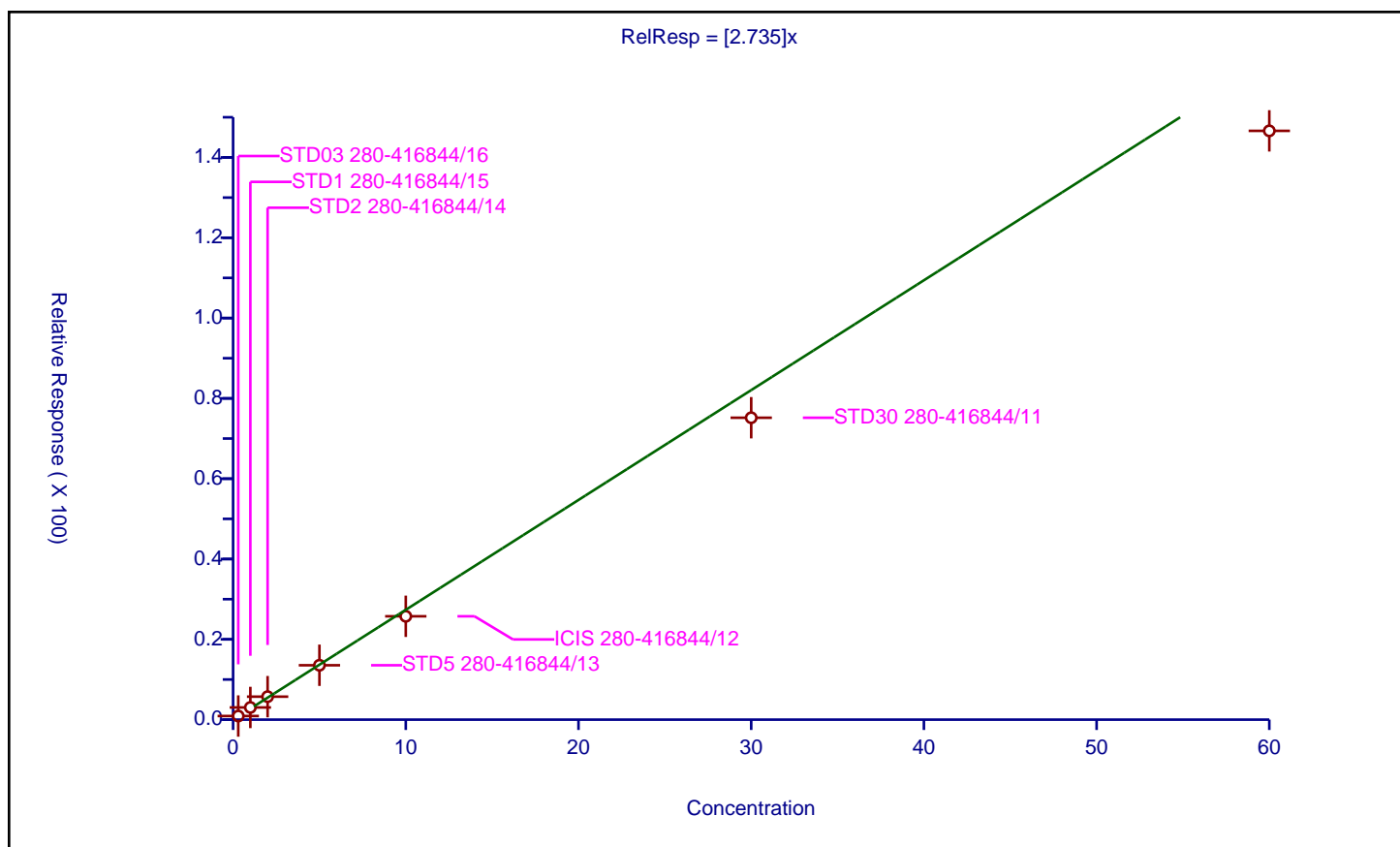
### Curve Coefficients

Intercept: 0  
 Slope: 2.735

### Error Coefficients

Standard Error: 2020000  
 Relative Standard Error: 8.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.905993	12.5	399065.0	3.019976	Y
2	STD1 280-416844/15	1.0	3.033197	12.5	384895.0	3.033197	Y
3	STD2 280-416844/14	2.0	5.722765	12.5	416370.0	2.861382	Y
4	STD5 280-416844/13	5.0	13.544911	12.5	401697.0	2.708982	Y
5	ICIS 280-416844/12	10.0	25.737405	12.5	406595.0	2.57374	Y
6	STD30 280-416844/11	30.0	75.178798	12.5	367804.0	2.50596	Y
7	STD60 280-416844/10	60.0	146.621114	12.5	369038.0	2.443685	Y





# Calibration

/ 1,2,4-Trimethylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

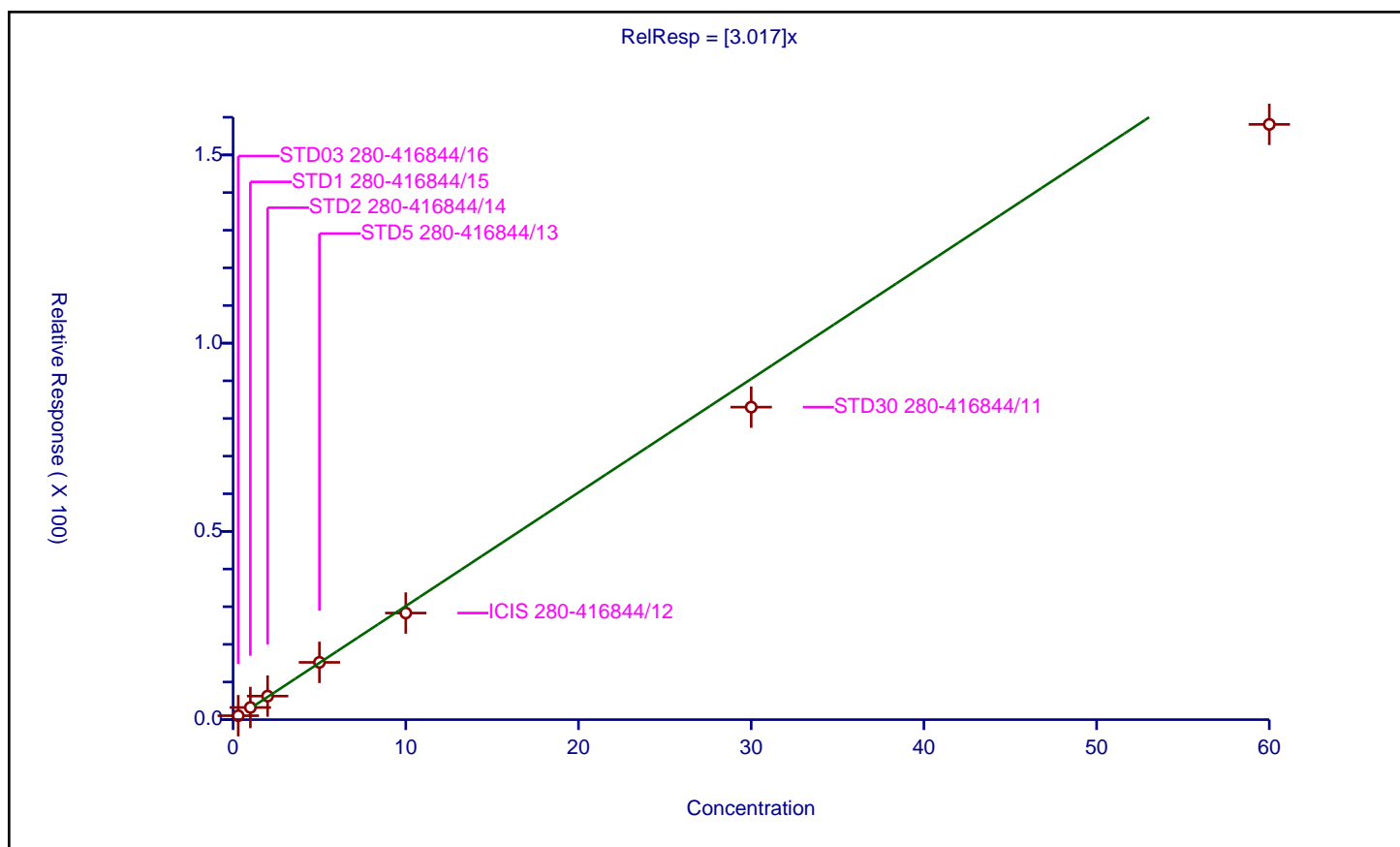
## Curve Coefficients

Intercept: 0  
 Slope: 3.017

## Error Coefficients

Standard Error: 2190000  
 Relative Standard Error: 9.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.044911	12.5	399065.0	3.483037	Y
2	STD1 280-416844/15	1.0	3.22903	12.5	384895.0	3.22903	Y
3	STD2 280-416844/14	2.0	6.253482	12.5	416370.0	3.126741	Y
4	STD5 280-416844/13	5.0	15.214328	12.5	401697.0	3.042866	Y
5	ICIS 280-416844/12	10.0	28.319181	12.5	406595.0	2.831918	Y
6	STD30 280-416844/11	30.0	83.00671	12.5	367804.0	2.76689	Y
7	STD60 280-416844/10	60.0	158.109971	12.5	369038.0	2.635166	Y





## Calibration

/ sec-Butylbenzene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

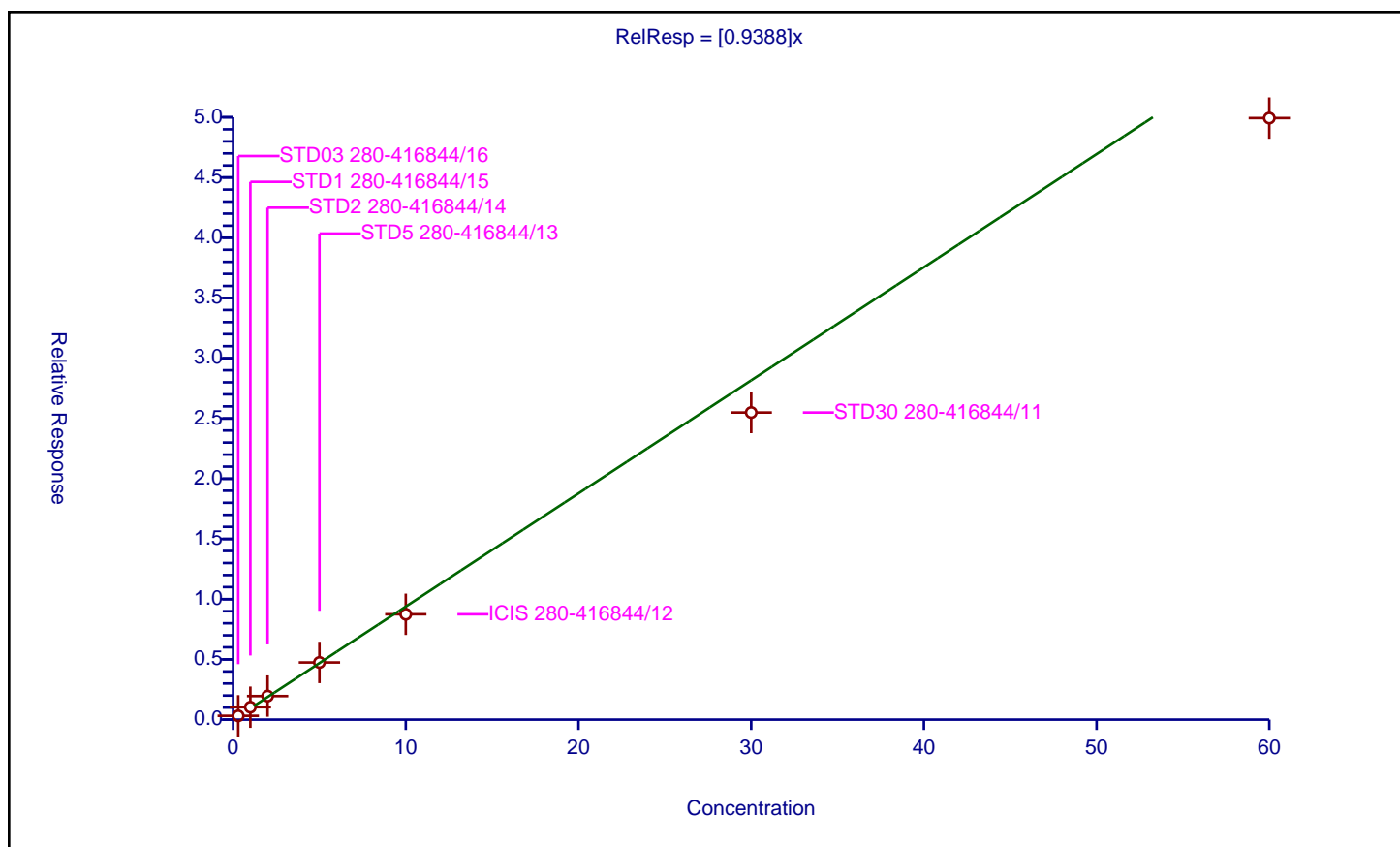
## Curve Coefficients

Intercept: 0  
Slope: 0.9388

## Error Coefficients

Standard Error: 689000  
Relative Standard Error: 9.5  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.316396	12.5	399065.0	1.054653	Y
2	STD1 280-416844/15	1.0	1.033723	12.5	384895.0	1.033723	Y
3	STD2 280-416844/14	2.0	1.955562	12.5	416370.0	0.977781	Y
4	STD5 280-416844/13	5.0	4.746861	12.5	401697.0	0.949372	Y
5	ICIS 280-416844/12	10.0	8.744174	12.5	406595.0	0.874417	Y
6	STD30 280-416844/11	30.0	25.492348	12.5	367804.0	0.849745	Y
7	STD60 280-416844/10	60.0	49.933476	12.5	369038.0	0.832225	Y





## Calibration

/ 4-Isopropyltoluene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

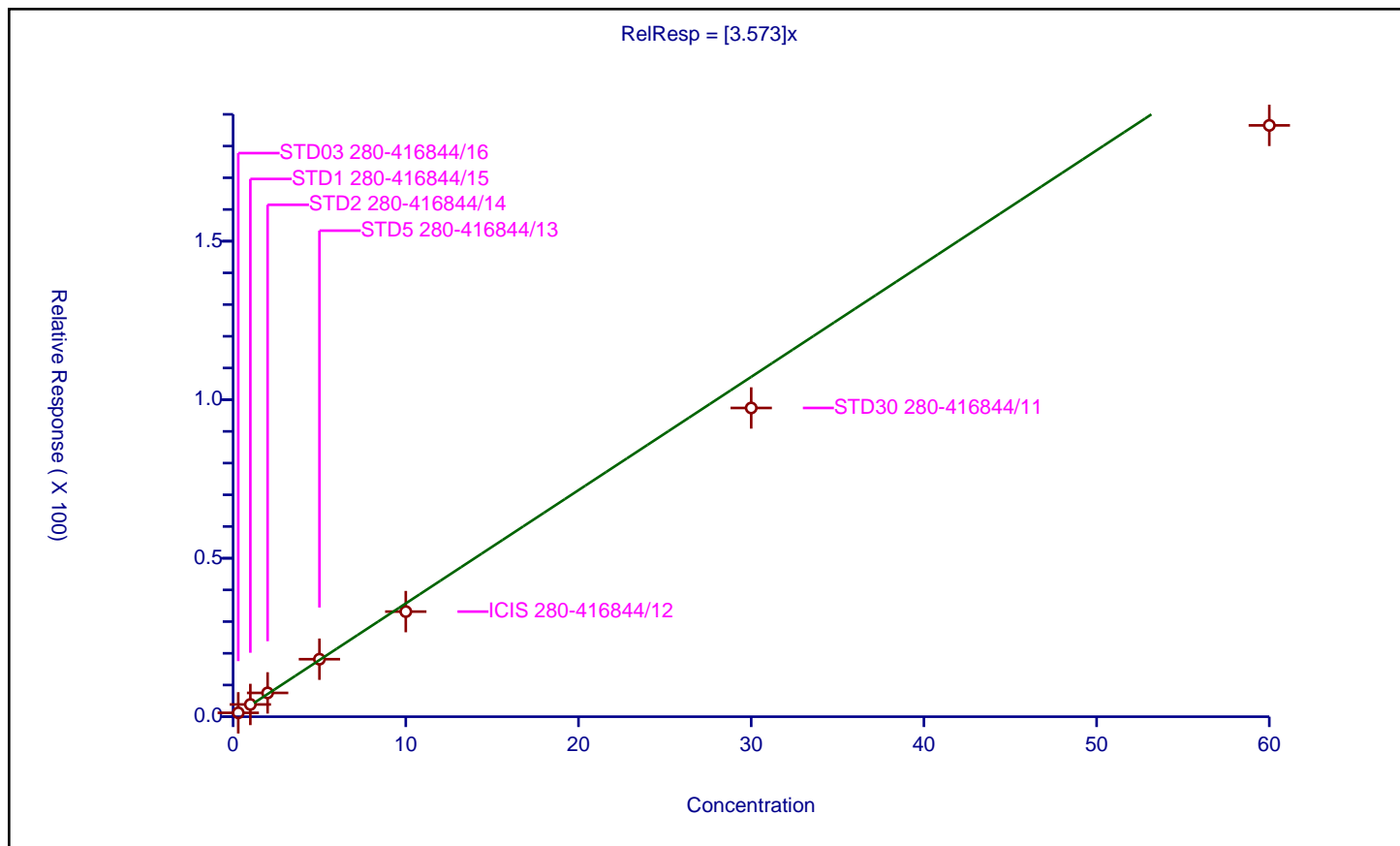
### Curve Coefficients

Intercept: 0  
 Slope: 3.573

### Error Coefficients

Standard Error: 2590000  
 Relative Standard Error: 10.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.228716	12.5	399065.0	4.09572	Y
2	STD1 280-416844/15	1.0	3.864138	12.5	384895.0	3.864138	Y
3	STD2 280-416844/14	2.0	7.509427	12.5	416370.0	3.754713	Y
4	STD5 280-416844/13	5.0	18.139014	12.5	401697.0	3.627803	Y
5	ICIS 280-416844/12	10.0	33.152984	12.5	406595.0	3.315298	Y
6	STD30 280-416844/11	30.0	97.389133	12.5	367804.0	3.246304	Y
7	STD60 280-416844/10	60.0	186.526252	12.5	369038.0	3.108771	Y





## Calibration

/ 1,3-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

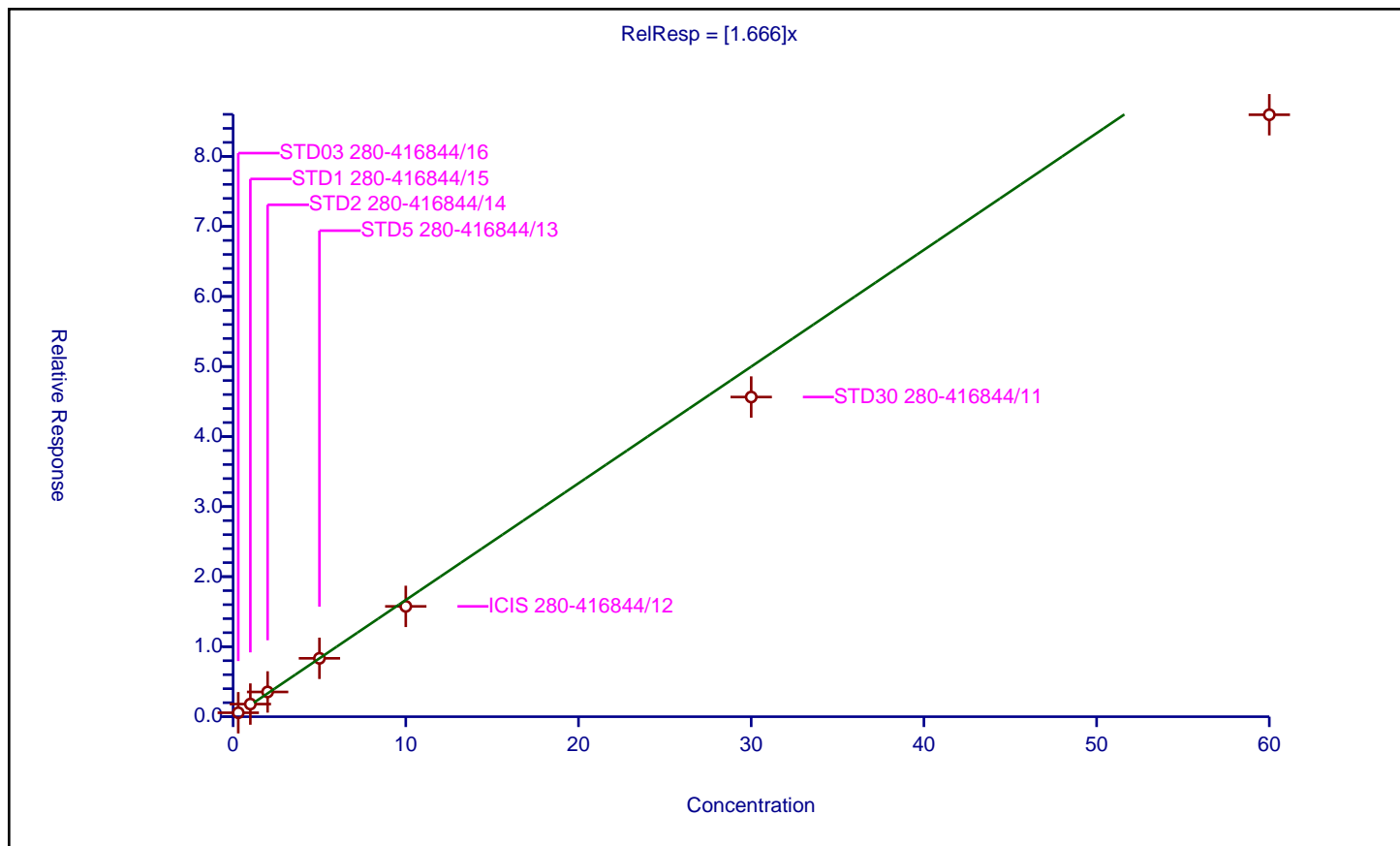
### Curve Coefficients

Intercept: 0  
 Slope: 1.666

### Error Coefficients

Standard Error: 1200000  
 Relative Standard Error: 9.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.567295	12.5	399065.0	1.890983	Y
2	STD1 280-416844/15	1.0	1.807798	12.5	384895.0	1.807798	Y
3	STD2 280-416844/14	2.0	3.535888	12.5	416370.0	1.767944	Y
4	STD5 280-416844/13	5.0	8.336227	12.5	401697.0	1.667245	Y
5	ICIS 280-416844/12	10.0	15.753698	12.5	406595.0	1.57537	Y
6	STD30 280-416844/11	30.0	45.643196	12.5	367804.0	1.52144	Y
7	STD60 280-416844/10	60.0	85.948026	12.5	369038.0	1.432467	Y





# Calibration

/ 1,4-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

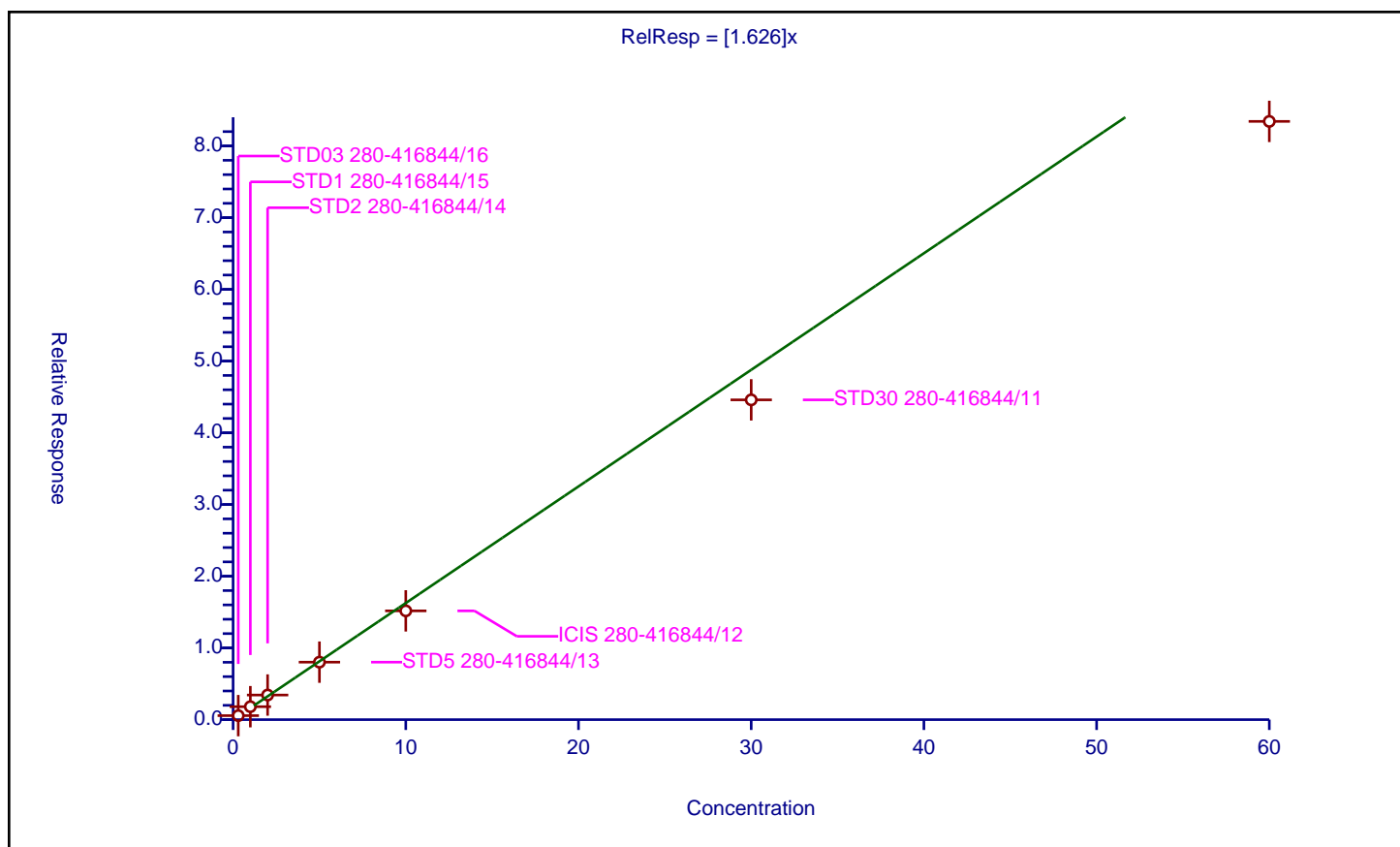
## Curve Coefficients

Intercept: 0  
 Slope: 1.626

## Error Coefficients

Standard Error: 1160000  
 Relative Standard Error: 10.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.558618	12.5	399065.0	1.862061	Y
2	STD1 280-416844/15	1.0	1.806824	12.5	384895.0	1.806824	Y
3	STD2 280-416844/14	2.0	3.431353	12.5	416370.0	1.715677	Y
4	STD5 280-416844/13	5.0	8.014934	12.5	401697.0	1.602987	Y
5	ICIS 280-416844/12	10.0	15.170132	12.5	406595.0	1.517013	Y
6	STD30 280-416844/11	30.0	44.5942	12.5	367804.0	1.486473	Y
7	STD60 280-416844/10	60.0	83.4242	12.5	369038.0	1.390403	Y





## Calibration

/ n-Butylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

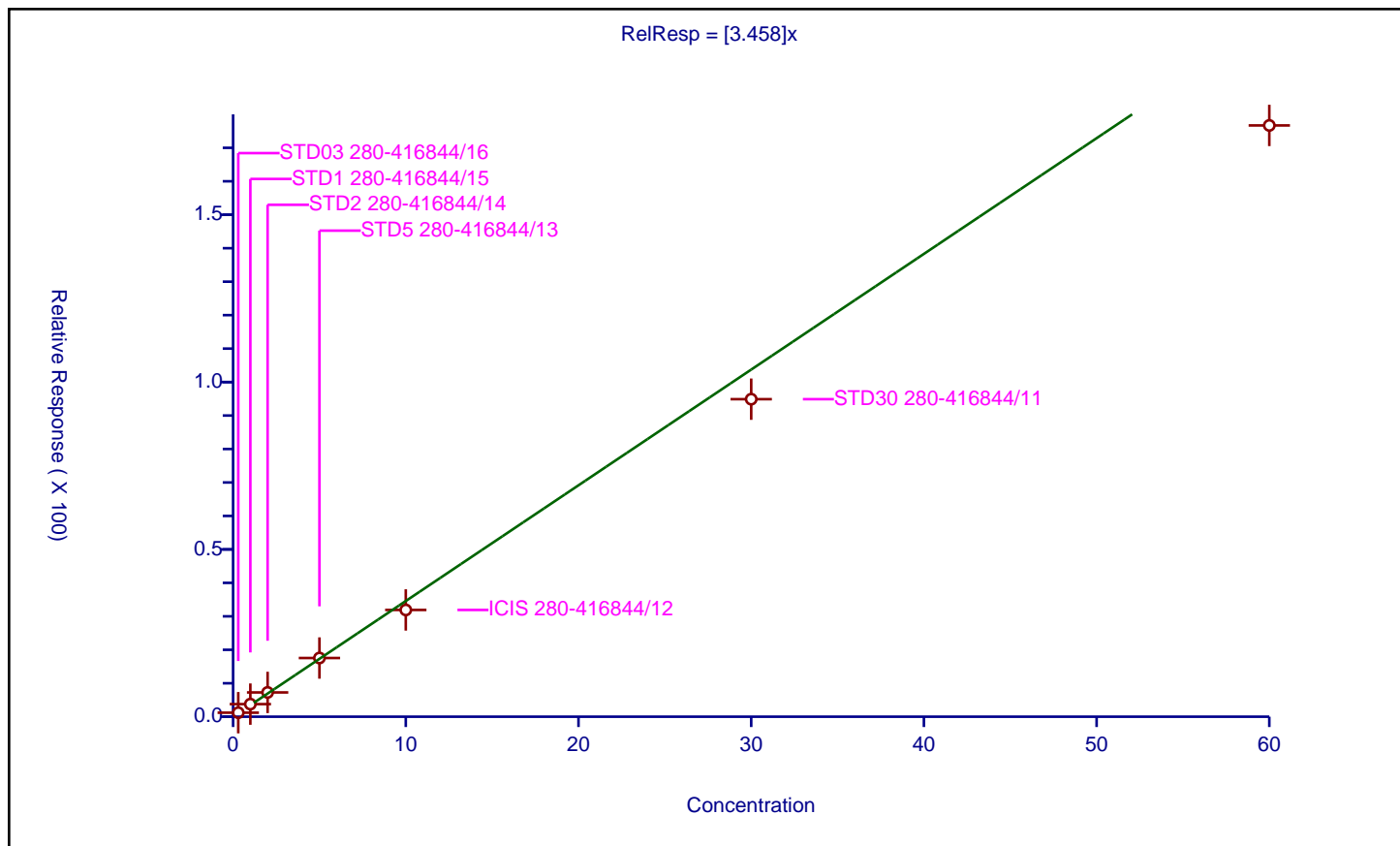
### Curve Coefficients

Intercept: 0  
 Slope: 3.458

### Error Coefficients

Standard Error: 2470000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.201026	12.5	399065.0	4.00342	Y
2	STD1 280-416844/15	1.0	3.764403	12.5	384895.0	3.764403	Y
3	STD2 280-416844/14	2.0	7.257818	12.5	416370.0	3.628909	Y
4	STD5 280-416844/13	5.0	17.542607	12.5	401697.0	3.508521	Y
5	ICIS 280-416844/12	10.0	31.901401	12.5	406595.0	3.19014	Y
6	STD30 280-416844/11	30.0	94.890009	12.5	367804.0	3.163	Y
7	STD60 280-416844/10	60.0	176.692068	12.5	369038.0	2.944868	Y





# Calibration

/ 1,2-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

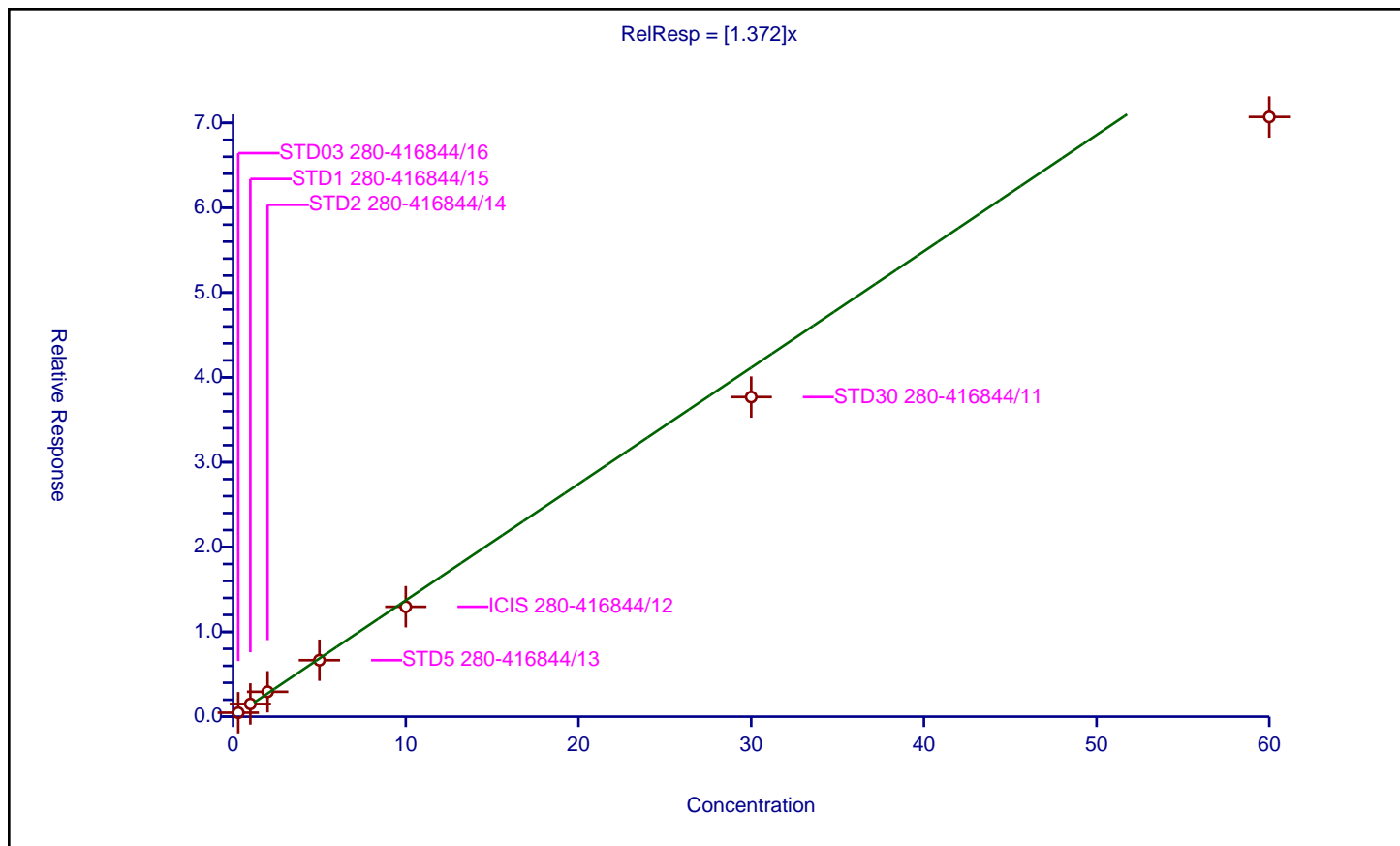
## Curve Coefficients

Intercept: 0  
 Slope: 1.372

## Error Coefficients

Standard Error: 985000  
 Relative Standard Error: 10.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.469566	12.5	399065.0	1.565221	Y
2	STD1 280-416844/15	1.0	1.503657	12.5	384895.0	1.503657	Y
3	STD2 280-416844/14	2.0	2.939333	12.5	416370.0	1.469666	Y
4	STD5 280-416844/13	5.0	6.660368	12.5	401697.0	1.332074	Y
5	ICIS 280-416844/12	10.0	12.962715	12.5	406595.0	1.296271	Y
6	STD30 280-416844/11	30.0	37.677234	12.5	367804.0	1.255908	Y
7	STD60 280-416844/10	60.0	70.692381	12.5	369038.0	1.178206	Y





## Calibration

/ 1,2-Dibromo-3-Chloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

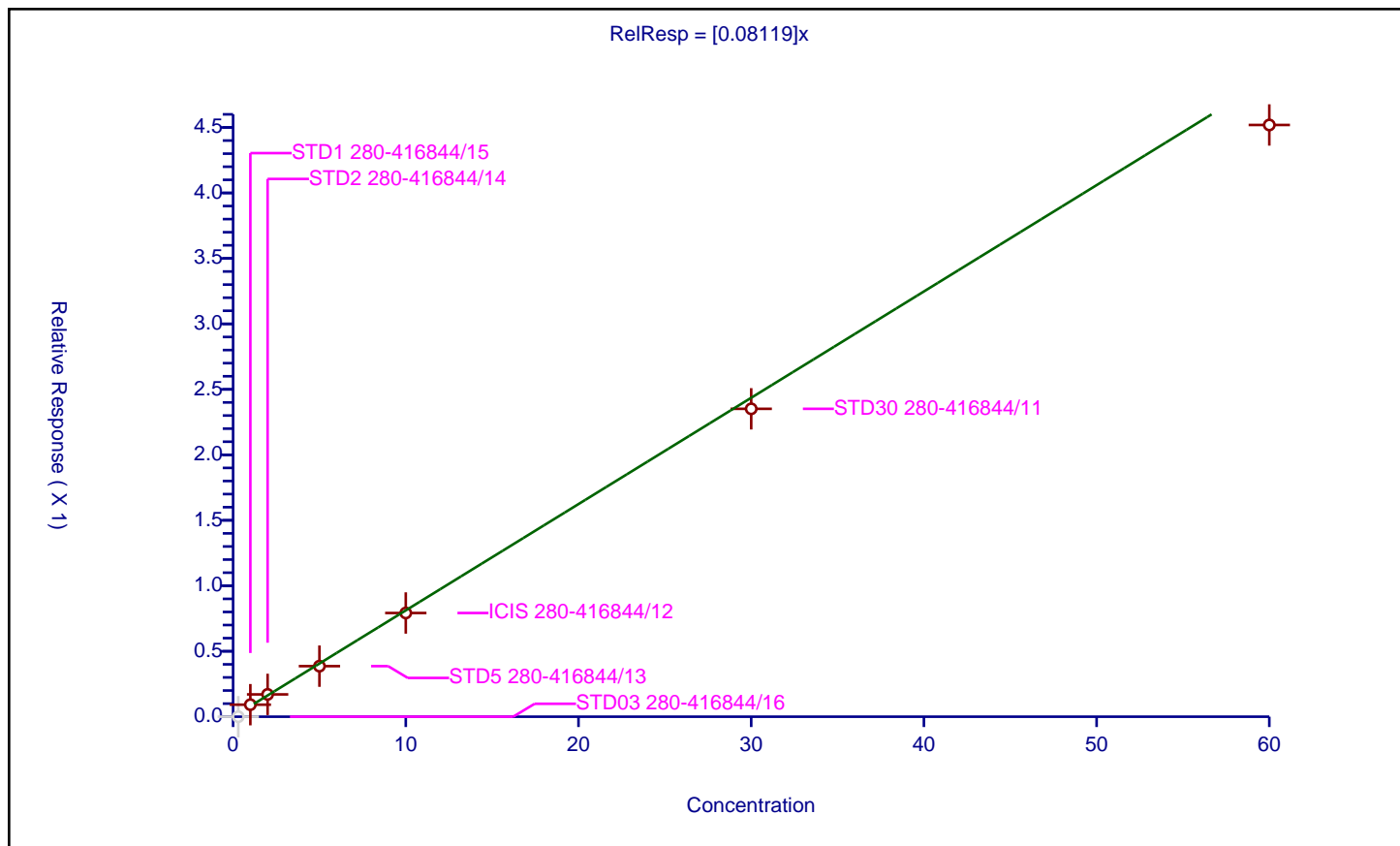
### Curve Coefficients

Intercept: 0  
 Slope: 0.08119

### Error Coefficients

Standard Error: 68500  
 Relative Standard Error: 7.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.0	12.5	399065.0	0.0	N
2	STD1 280-416844/15	1.0	0.091778	12.5	384895.0	0.091778	Y
3	STD2 280-416844/14	2.0	0.170461	12.5	416370.0	0.085231	Y
4	STD5 280-416844/13	5.0	0.386081	12.5	401697.0	0.077216	Y
5	ICIS 280-416844/12	10.0	0.792035	12.5	406595.0	0.079204	Y
6	STD30 280-416844/11	30.0	2.351286	12.5	367804.0	0.078376	Y
7	STD60 280-416844/10	60.0	4.519081	12.5	369038.0	0.075318	Y





## Calibration

/ 1,2,4-Trichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

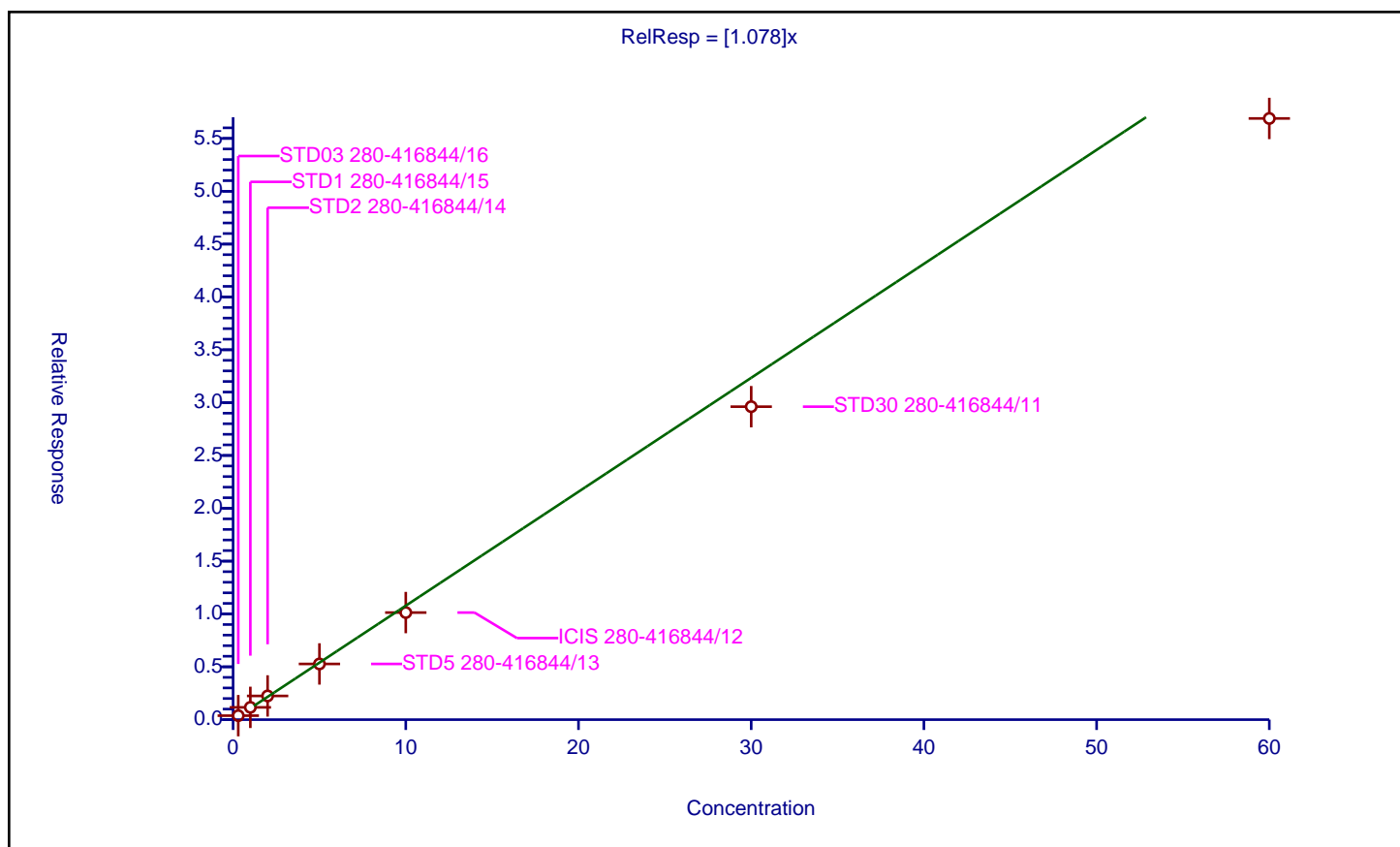
### Curve Coefficients

Intercept: 0  
 Slope: 1.078

### Error Coefficients

Standard Error: 788000  
 Relative Standard Error: 10.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.378165	12.5	399065.0	1.260551	Y
2	STD1 280-416844/15	1.0	1.1622	12.5	384895.0	1.1622	Y
3	STD2 280-416844/14	2.0	2.244458	12.5	416370.0	1.122229	Y
4	STD5 280-416844/13	5.0	5.271604	12.5	401697.0	1.054321	Y
5	ICIS 280-416844/12	10.0	10.132072	12.5	406595.0	1.013207	Y
6	STD30 280-416844/11	30.0	29.615502	12.5	367804.0	0.987183	Y
7	STD60 280-416844/10	60.0	56.887976	12.5	369038.0	0.948133	Y





# Calibration

/ Hexachlorobutadiene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

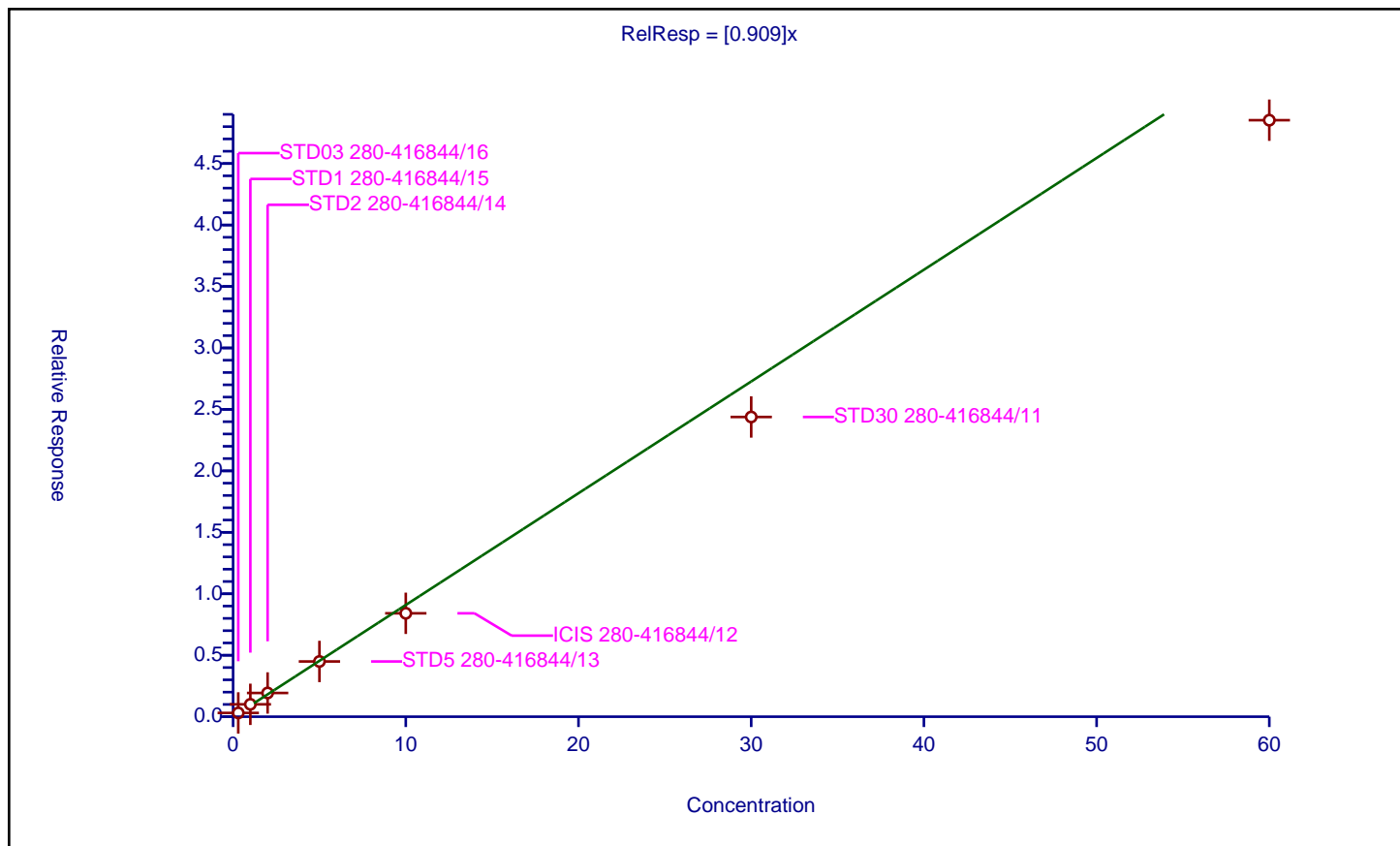
## Curve Coefficients

Intercept: 0  
 Slope: 0.909

## Error Coefficients

Standard Error: 667000  
 Relative Standard Error: 10.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.308314	12.5	399065.0	1.027715	Y
2	STD1 280-416844/15	1.0	1.009009	12.5	384895.0	1.009009	Y
3	STD2 280-416844/14	2.0	1.930014	12.5	416370.0	0.965007	Y
4	STD5 280-416844/13	5.0	4.493001	12.5	401697.0	0.8986	Y
5	ICIS 280-416844/12	10.0	8.41178	12.5	406595.0	0.841178	Y
6	STD30 280-416844/11	30.0	24.3816	12.5	367804.0	0.81272	Y
7	STD60 280-416844/10	60.0	48.525355	12.5	369038.0	0.808756	Y





## Calibration

/ Naphthalene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

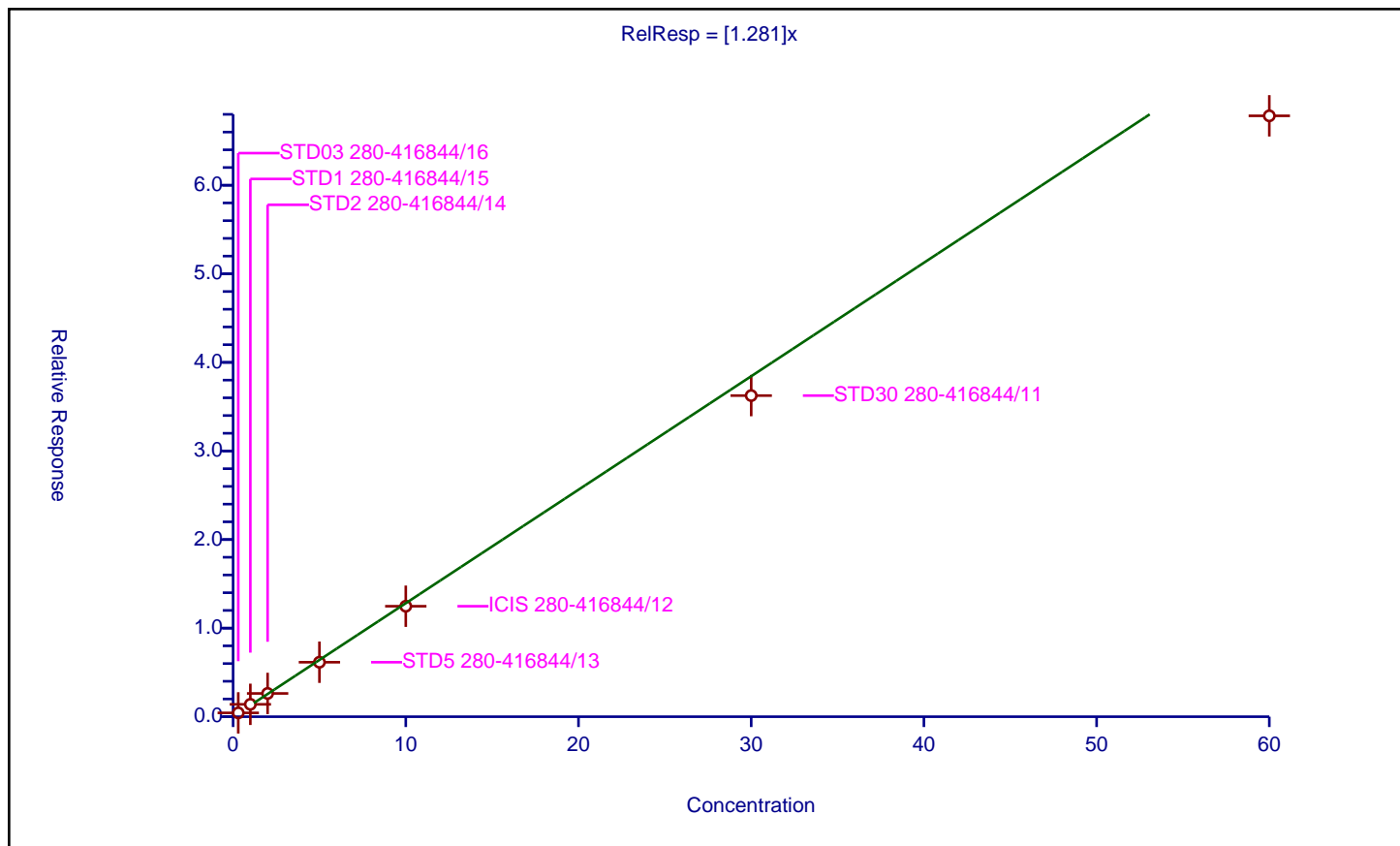
### Curve Coefficients

Intercept: 0  
 Slope: 1.281

### Error Coefficients

Standard Error: 945000  
 Relative Standard Error: 8.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.431791	12.5	399065.0	1.439302	Y
2	STD1 280-416844/15	1.0	1.400252	12.5	384895.0	1.400252	Y
3	STD2 280-416844/14	2.0	2.62573	12.5	416370.0	1.312865	Y
4	STD5 280-416844/13	5.0	6.149878	12.5	401697.0	1.229976	Y
5	ICIS 280-416844/12	10.0	12.471593	12.5	406595.0	1.247159	Y
6	STD30 280-416844/11	30.0	36.252359	12.5	367804.0	1.208412	Y
7	STD60 280-416844/10	60.0	67.835596	12.5	369038.0	1.130593	Y





## Calibration

/ 1,2,3-Trichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

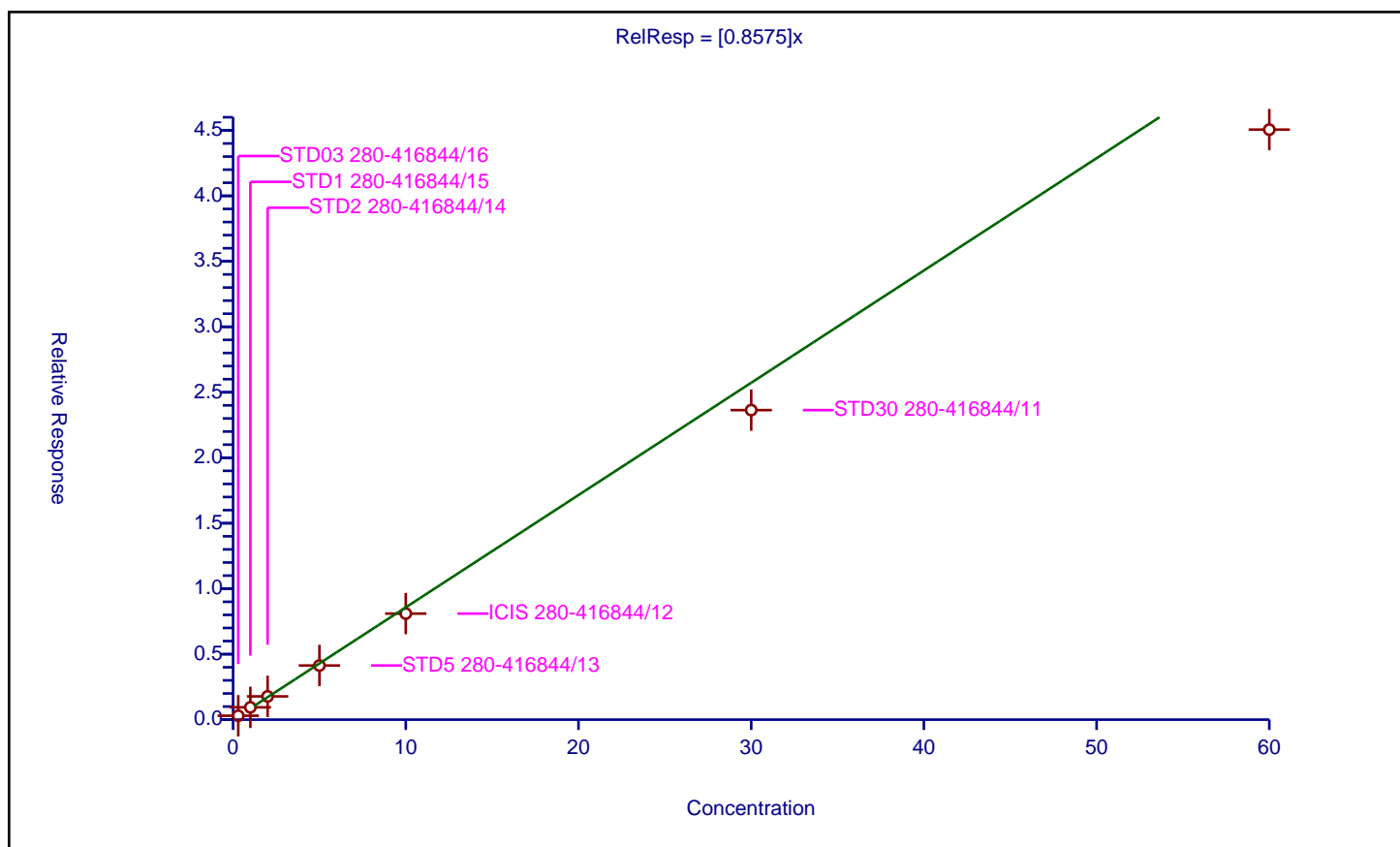
### Curve Coefficients

Intercept: 0  
 Slope: 0.8575

### Error Coefficients

Standard Error: 625000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.299638	12.5	399065.0	0.998793	Y
2	STD1 280-416844/15	1.0	0.940094	12.5	384895.0	0.940094	Y
3	STD2 280-416844/14	2.0	1.776665	12.5	416370.0	0.888332	Y
4	STD5 280-416844/13	5.0	4.133464	12.5	401697.0	0.826693	Y
5	ICIS 280-416844/12	10.0	8.098015	12.5	406595.0	0.809802	Y
6	STD30 280-416844/11	30.0	23.637386	12.5	367804.0	0.787913	Y
7	STD60 280-416844/10	60.0	45.057284	12.5	369038.0	0.750955	Y





FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418481

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/13/2018 21:22 Calibration End Date: 06/13/2018 22:46 Calibration ID: 32691

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 280-418481/10	MS9_1296.D
Level 2	STD5 280-418481/11	MS9_1297.D
Level 3	STD10 280-418481/12	MS9_1298.D
Level 4	STD30 280-418481/13	MS9_1299.D
Level 5	STD60 280-418481/14	MS9_1300.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dibromofluoromethane (Surr)	0.3550	0.3746	0.2766	0.2647	0.2508	Lin1	0.3205	0.2499							0.9950		0.9900
1,2-Dichloroethane-d4 (Surr)	0.3121	0.3207	0.2396	0.2275	0.2184	Lin1	0.2774	0.2165							0.9960		0.9900
Toluene-d8 (Surr)	4.9077	5.0331	3.7398	3.5963	3.2892	Lin1	4.7382	3.3077							0.9940		0.9900
4-Bromofluorobenzene (Surr)	1.1664	1.1642	0.8959	0.8607	0.8111	Lin1	1.0024	0.8092							0.9960		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418481

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/13/2018 21:22 Calibration End Date: 06/13/2018 22:46 Calibration ID: 32691

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 280-418481/10	MS9_1296.D
Level 2	STD5 280-418481/11	MS9_1297.D
Level 3	STD10 280-418481/12	MS9_1298.D
Level 4	STD30 280-418481/13	MS9_1299.D
Level 5	STD60 280-418481/14	MS9_1300.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Dibromofluoromethane (Surr)	FB	Lin1	75824	155156	272708	725885	1339618	2.00	5.00	10.0	30.0	60.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin1	66658	132826	236229	623999	1166588	2.00	5.00	10.0	30.0	60.0
Toluene-d8 (Surr)	CBNZd	Lin1	277620	559156	973830	2595676	4706526	2.00	5.00	10.0	30.0	60.0
4-Bromofluorobenzene (Surr)	DCBd4	Lin1	102733	198596	360435	947771	1769816	2.00	5.00	10.0	30.0	60.0

Curve Type Legend:

Lin1 = Linear 1/conc ISTD



## Calibration

/ Dibromofluoromethane (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

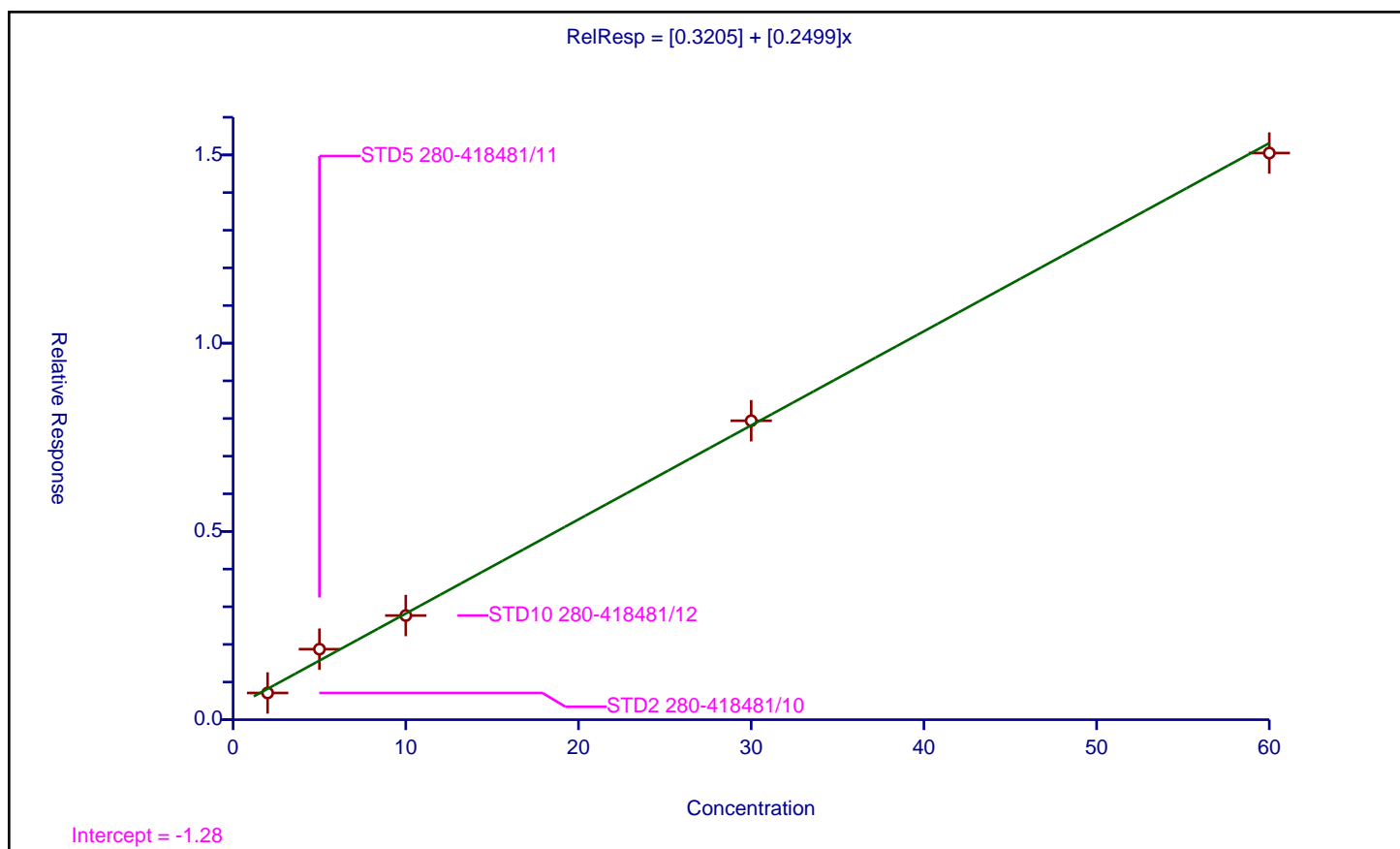
### Curve Coefficients

Intercept: 0.3205  
 Slope: 0.2499

### Error Coefficients

Standard Error: 899000  
 Relative Standard Error: 19.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	0.710068	12.5	1334802.0	0.355034	Y
2	STD5 280-418481/11	5.0	1.873226	12.5	1035353.0	0.374645	Y
3	STD10 280-418481/12	10.0	2.766466	12.5	1232204.0	0.276647	Y
4	STD30 280-418481/13	30.0	7.940063	12.5	1142757.0	0.264669	Y
5	STD60 280-418481/14	60.0	15.050467	12.5	1112605.0	0.250841	Y





## Calibration

/ 1,2-Dichloroethane-d4 (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

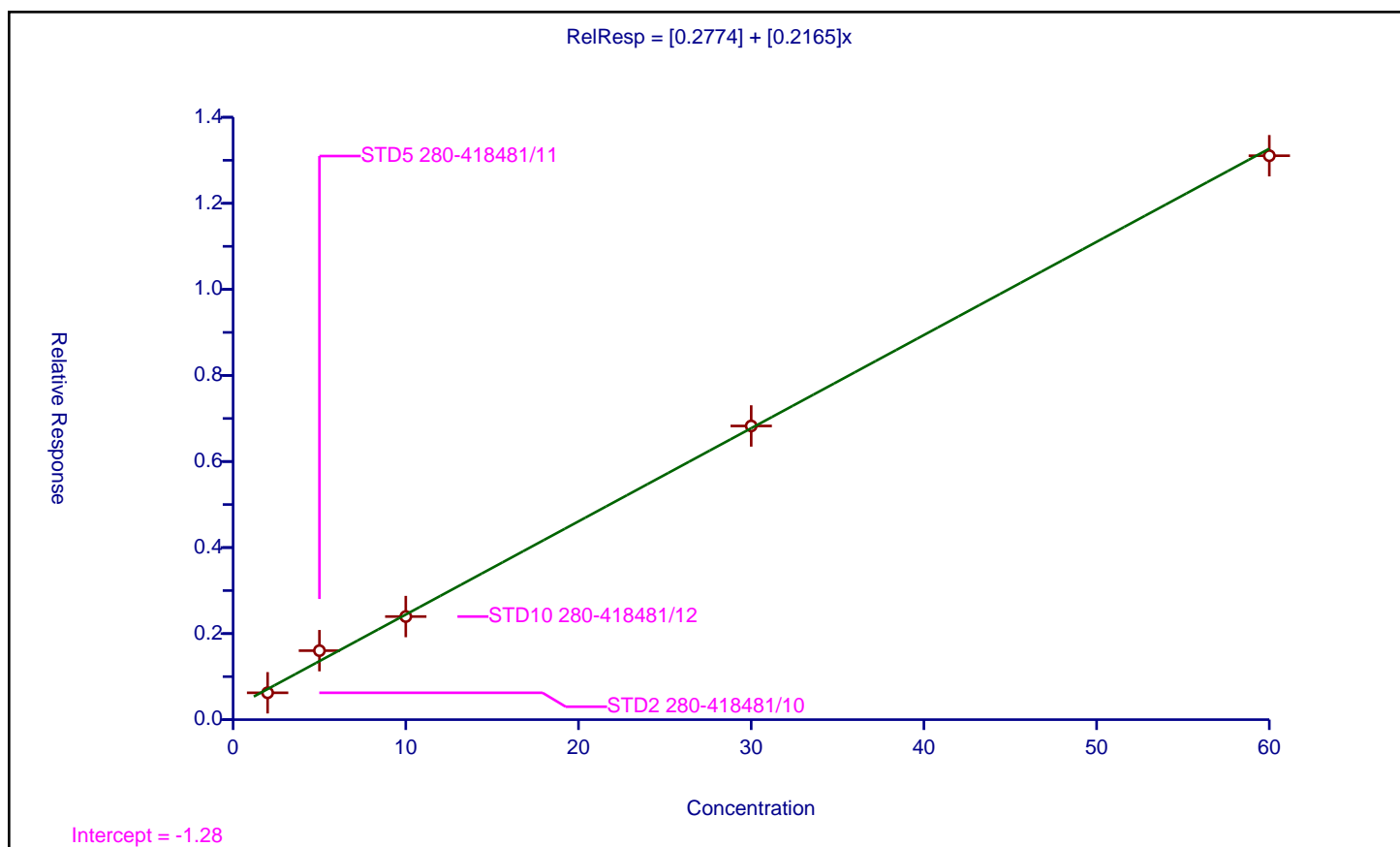
### Curve Coefficients

Intercept: 0.2774  
 Slope: 0.2165

### Error Coefficients

Standard Error: 781000  
 Relative Standard Error: 17.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	0.624231	12.5	1334802.0	0.312116	Y
2	STD5 280-418481/11	5.0	1.603632	12.5	1035353.0	0.320726	Y
3	STD10 280-418481/12	10.0	2.396407	12.5	1232204.0	0.239641	Y
4	STD30 280-418481/13	30.0	6.825587	12.5	1142757.0	0.22752	Y
5	STD60 280-418481/14	60.0	13.106493	12.5	1112605.0	0.218442	Y





## Calibration

/ Toluene-d8 (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

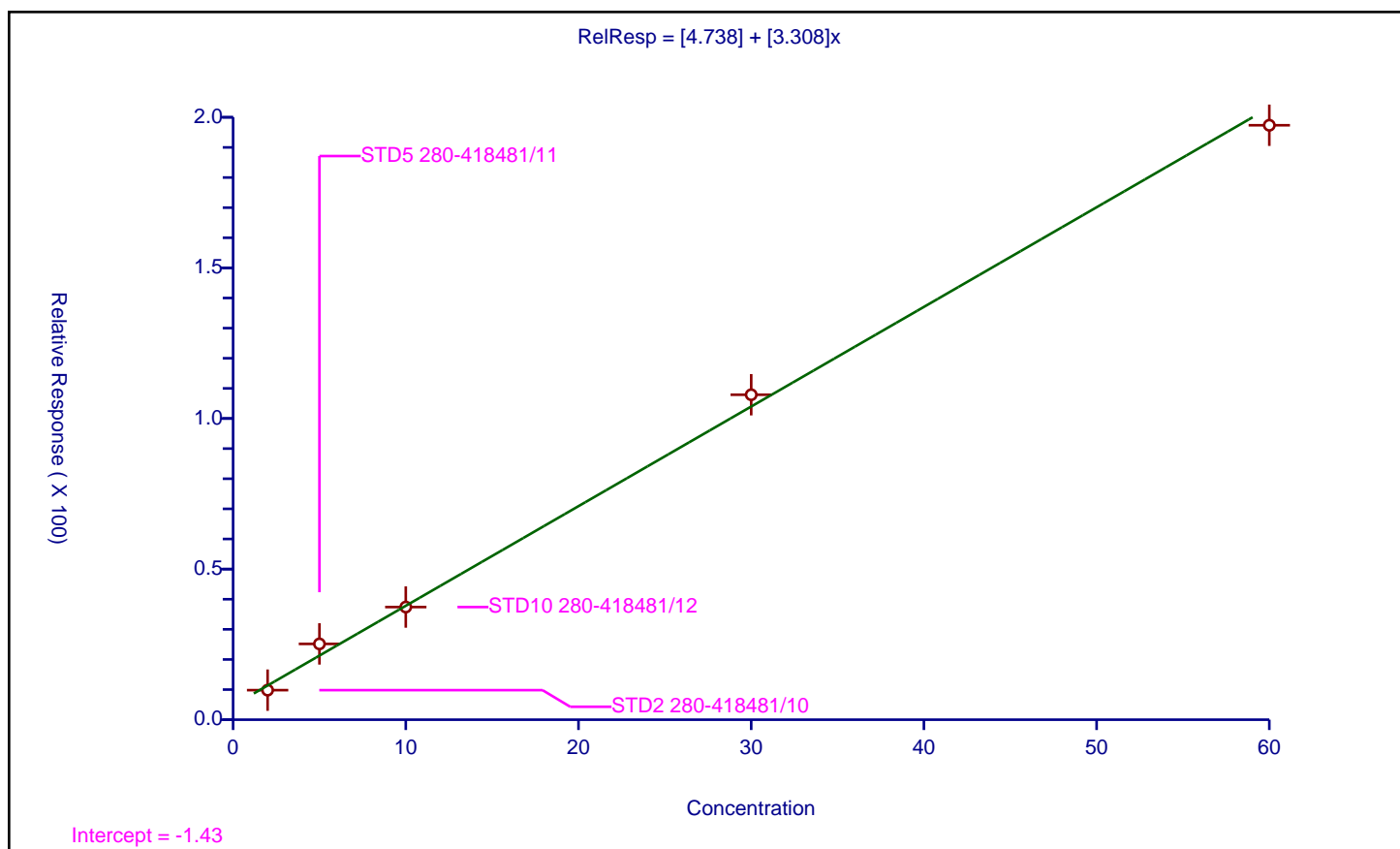
### Curve Coefficients

Intercept: 4.738  
 Slope: 3.308

### Error Coefficients

Standard Error: 3170000  
 Relative Standard Error: 19.3  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	9.81536	12.5	353553.0	4.90768	Y
2	STD5 280-418481/11	5.0	25.165533	12.5	277739.0	5.033107	Y
3	STD10 280-418481/12	10.0	37.398385	12.5	325492.0	3.739838	Y
4	STD30 280-418481/13	30.0	107.887763	12.5	300738.0	3.596259	Y
5	STD60 280-418481/14	60.0	197.34987	12.5	298108.0	3.289164	Y





## Calibration

/ 4-Bromofluorobenzene (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

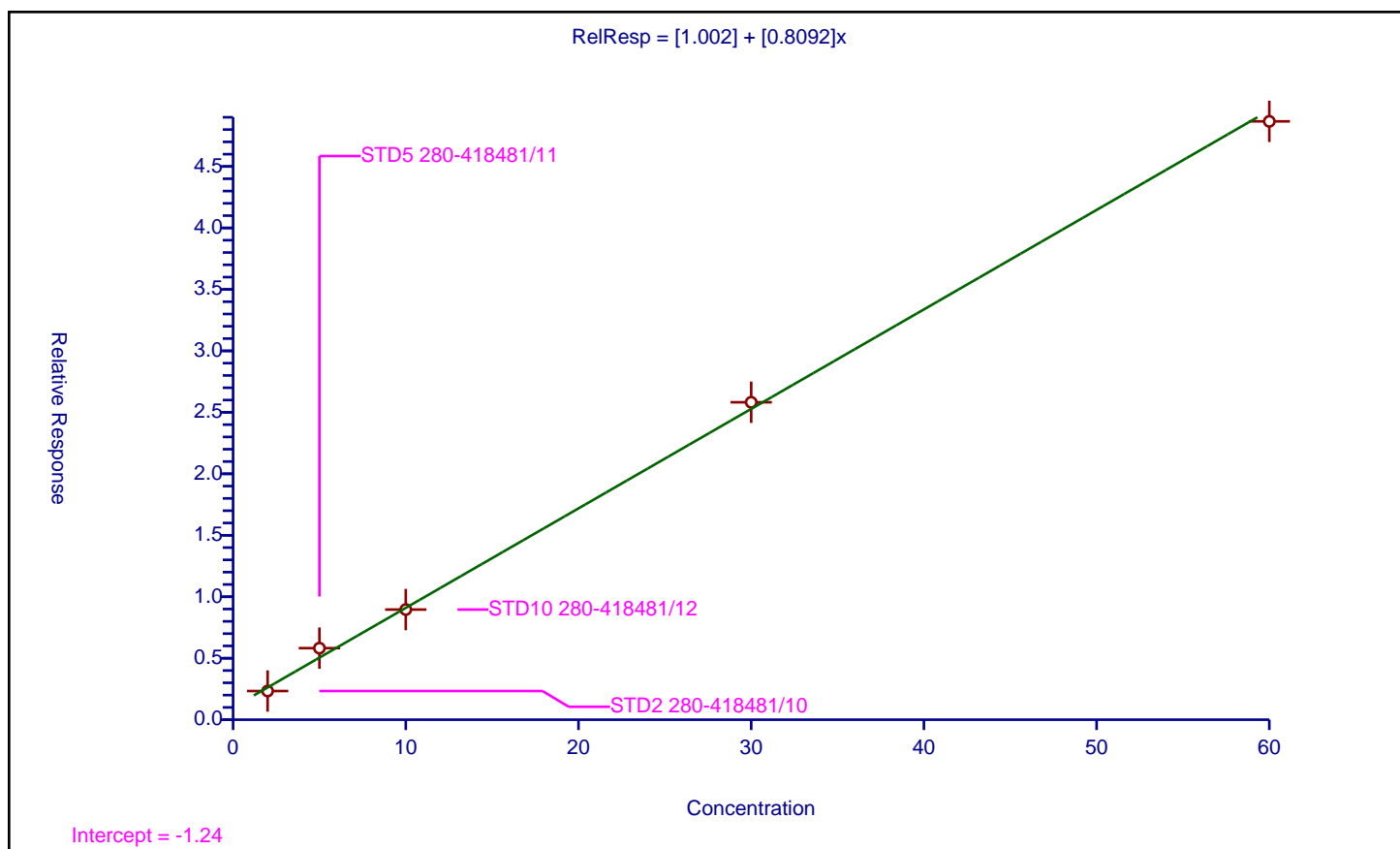
### Curve Coefficients

Intercept: 1.002  
 Slope: 0.8092

### Error Coefficients

Standard Error: 1180000  
 Relative Standard Error: 15.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	2.332746	12.5	550494.0	1.166373	Y
2	STD5 280-418481/11	5.0	5.820898	12.5	426472.0	1.16418	Y
3	STD10 280-418481/12	10.0	8.959305	12.5	502878.0	0.895931	Y
4	STD30 280-418481/13	30.0	25.819983	12.5	458836.0	0.860666	Y
5	STD60 280-418481/14	60.0	48.668704	12.5	454557.0	0.811145	Y





FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419807/19	Q5010.D
Level 2	STD020 280-419807/20	Q5011.D
Level 3	STD050 280-419807/21	Q5016.D
Level 4	ICIS 280-419807/22	Q5013.D
Level 5	STD30 280-419807/23	Q5014.D
Level 6	STD60 280-419807/24	Q5015.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0014 0.0015	0.0017	0.0022	0.0019	0.0017	Qua	0.0183	0.0019	0						1.0000		0.9900
Ethanol	++++ 0.1067	0.1937	0.1503	0.1326	0.1237	Lin2	9.8978	0.1133							0.9960		0.9900
Propene oxide	0.0133 0.0094	0.0115	0.0137	0.0123	0.0107	Ave		0.0118				13.7		15.0			
2-Propanol	0.3785 0.8389	0.9133	0.9534	0.9000	0.8401	Lin1	-1.711	0.8568							0.9960		0.9900
Di-isopropyl ether (DIPE)	0.1641 0.1725	0.1503	0.1645	0.1576	0.1644	Ave		0.1622				4.6		15.0			
Chloroprene	0.4039 0.3914	0.4082	0.4197	0.4200	0.4188	Ave		0.4103				2.8		15.0			
Tert-butyl ethyl ether	0.4360 0.4542	0.3933	0.4411	0.4034	0.4219	Ave		0.4250				5.5		15.0			
Ethyl acetate	0.0572 0.0475	0.0420	0.0459	0.0467	0.0471	Ave		0.0477				10.6		15.0			
Propionitrile	0.0032 0.0085	0.0021	0.0043	0.0048	0.0063	Qua	-0.021	0.0042	0.0000072						1.0000		0.9900
Methacrylonitrile	0.0382 0.0418	0.0372	0.0423	0.0426	0.0417	Ave		0.0406				5.7		15.0			
Tert-amyl methyl ether	0.3096 0.3269	0.2877	0.3330	0.3022	0.3153	Ave		0.3124				5.3		15.0			
Methyl methacrylate	0.0156 0.0223	0.0171	0.0191	0.0195	0.0207	Ave		0.0191				12.7		15.0			
2-Nitropropane	0.0058 0.0057	0.0066	0.0040	0.0046	0.0051	Qua	0.0022	0.0044	0.0000114						1.0000		0.9900
Tetrahydrothiophene	0.0378 0.0578	0.0490	0.0521	0.0482	0.0515	Ave		0.0494				13.4		15.0			
cis-1,4-Dichloro-2-butene	0.0863 0.1184	0.0976	0.1005	0.1112	0.1103	Ave		0.1041				11.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,3-Trimethylbenzene	3.4555 3.0172	3.5063	3.5297	3.3956	3.7243	Ave		3.4381				6.8		15.0			
1,3,5-Trichlorobenzene	1.1670 1.1355	1.1280	1.2237	1.0409	1.3320	Ave		1.1712				8.4		15.0			
Dibromofluoromethane (Surr)	++++ 0.2317	0.2392	0.2181	0.2227	0.2321	Ave		0.2287				3.7		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.1618	0.1750	0.1606	0.1658	0.1626	Ave		0.1652				3.5		15.0			
Toluene-d8 (Surr)	6.5918 ++++	6.2236	5.3243	5.8069	5.3421	Ave		5.8577				9.5		15.0			
4-Bromofluorobenzene (Surr)	++++ 1.1960	1.4126	1.1633	1.2401	1.3600	Ave		1.2744				8.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419807/19	Q5010.D
Level 2	STD020 280-419807/20	Q5011.D
Level 3	STD050 280-419807/21	Q5016.D
Level 4	ICIS 280-419807/22	Q5013.D
Level 5	STD30 280-419807/23	Q5014.D
Level 6	STD60 280-419807/24	Q5015.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Qua	29248 1789177	69888	201537	401295	1058293	100 6000	200	500	1000	3000
Ethanol	TBAd 9	Lin2	++++ 291688	16984	33114	54012	165146	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	272525 11050202	469344	1241485	2648873	6657725	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Lin1	3020 382260	13346	35021	61105	186875	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	33622 2037466	61124	149552	339509	1018558	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	82753 4622596	165941	381652	904497	2594830	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	89316 5364063	159909	401087	868764	2614012	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	23418 1121570	34116	83393	201351	584167	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Qua	6475 1000187	8393	39074	102561	387275	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	78218 4935277	151271	384886	918442	2584913	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	63419 3861009	116953	302763	650909	1953485	1.00 60.0	2.00	5.00	10.0	30.0
Methyl methacrylate	FB	Ave	6395 526429	13917	34666	84039	257116	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Qua	2364 135635	5341	7303	19849	63464	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	3115 269900	7514	18431	38878	126087	2.00 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	8520 664845	16815	42782	100942	319205	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	170481 8468645	302145	751368	1541010	5389343	1.00 60.0	2.00	5.00	10.0	30.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,3,5-Trichlorobenzene	DCBd 4	Ave	57577 3187092	97204	260488	472397	1927439	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 2736087	97228	198277	479513	1437827	++++ 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 1910903	71167	145996	357075	1007386	++++ 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	271724 ++++	477219	941105	2343739	6542646	1.00 ++++	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 3357095	121725	247623	562812	1967997	++++ 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD  
Qua = Quadratic ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-420110/12	Q5046.D
Level 2	STD010 280-420110/13	Q5047.D
Level 3	STD020 280-420110/14	Q5048.D
Level 4	STD050 280-420110/15	Q5049.D
Level 5	STD10 280-420110/16	Q5050.D
Level 6	STD30 280-420110/17	Q5053.D
Level 7	STD60 280-420110/18	Q5052.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7															
Dichlorodifluoromethane	0.3738 0.3231	0.3723 0.3592	0.4056	0.3786	0.3824	Ave		0.3707				6.8		15.0			
Chloromethane	0.2447 0.2305	0.2168 0.2447	0.2135	0.2810	0.2872	Ave		0.2455			0.1000	11.8		15.0			
Vinyl chloride	0.2015 0.1373	0.2067 0.1442	0.2076	0.1843	0.1623	Lin1	0.0444	0.1448							0.9930		0.9900
Bromomethane	0.1451 0.0972	0.1398 +++++	0.1290	0.1207	0.1242	Ave		0.1260				13.4		15.0			
Chloroethane	0.1098 0.0820	0.1021 0.0810	0.0948	0.0978	0.1066	Ave		0.0963				11.7		15.0			
Dichlorofluoromethane	0.3640 0.3405	0.4309 +++++	0.3907	0.4250	0.4174	Ave		0.3948				9.2		15.0			
Trichlorofluoromethane	0.5814 0.4423	0.5818 0.4547	0.5558	0.5248	0.5435	Ave		0.5263				10.8		15.0			
Ethyl ether	0.1412 0.0967	0.1333 0.0855	0.1361	0.1057	0.1073	Lin1	0.0326	0.0910							0.9910		0.9900
Acrolein	0.0135 0.0111	0.0140 0.0117	0.0139	0.0110	0.0124	Ave		0.0125				10.2		15.0			
Acetone	+++++ 0.0150	0.0250 0.0159	0.0225	0.0175	0.0176	Lin2	0.0399	0.0158							0.9940		0.9900
Freon 113	0.2187 0.2112	0.2322 0.2220	0.2313	0.2535	0.2658	Ave		0.2335				8.4		15.0			
1,1-Dichloroethene	0.4154 0.2758	0.3787 0.2877	0.3850	0.3306	0.3470	Ave		0.3457				14.9		30.0			
Iodomethane	0.5182 0.4151	0.5232 0.4382	0.5346	0.4837	0.5121	Ave		0.4893				9.4		15.0			
Methyl acetate	+++++ 0.0427	0.0592 0.0428	0.0585	0.0490	0.0458	Lin2	0.0358	0.0442							0.9930		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.6223 0.4474	0.6070 0.4418	0.6363	0.4913	0.5311	Lin1	0.1185	0.4518							0.9950		0.9900
Tert-butyl alcohol (2-methyl-2-propanol)	1.1568 1.2847	1.3678 1.4719	1.0408	1.2913	1.3675	Ave		1.2830				11.2		15.0			
Carbon disulfide	1.5046 1.1378	1.4979 1.1284	1.5780	1.3463	1.3876	Ave		1.3687				13.0		15.0			
Methylene Chloride	0.6440 0.2246	0.4061 0.2284	0.3581	0.2788	0.2861	Lin1	0.1574	0.2300							0.9940		0.9900
Acrylonitrile	++++ 0.0214	0.0203 0.0224	0.0238	0.0213	0.0243	Ave		0.0223				6.9		15.0			
Methyl tert-butyl ether	0.3376 0.3017	0.3299 0.2999	0.3397	0.3099	0.3407	Ave		0.3228				5.7		15.0			
trans-1,2-Dichloroethene	0.4461 0.2821	0.4273 0.2840	0.4380	0.3236	0.3498	Lin1	0.1012	0.2895							0.9920		0.9900
Hexane	3.3938 2.5856	3.3001 2.2728	3.1477	2.8087	2.6831	Ave		2.8845				14.2		15.0			
Vinyl acetate	0.1830 0.2165	0.1930 0.2146	0.1986	0.1836	0.1872	Ave		0.1966				7.1		15.0			
1,1-Dichloroethane	0.7147 0.5068	0.7308 0.4962	0.7398	0.5489	0.5828	Lin1	0.1484	0.5072			0.1000				0.9950		0.9900
Methyl ethyl ketone (MEK)	++++ 0.0339	0.0396 0.0352	0.0354	0.0327	0.0341	Ave		0.0351				6.7		15.0			
sec-Butyl Alcohol	++++ 1.1186	1.2286 1.2281	1.1100	1.1694	1.1521	Ave		1.1678				4.4		15.0			
cis-1,2-Dichloroethene	++++ 0.2592	0.4068 ++++	0.4101	0.2947	0.3081	Lin1	0.2032	0.2613							0.9930		0.9900
2,2-Dichloropropane	0.5596 0.3119	0.4761 0.2949	0.4943	0.3409	0.3517	Lin1	0.1348	0.3044							0.9930		0.9900
Chlorobromomethane	++++ 0.0773	0.1141 ++++	0.1159	0.0910	0.0940	Lin1	0.0528	0.0791							0.9920		0.9900
Chloroform	0.6077 0.4285	0.6125 0.3995	0.6223	0.4865	0.5014	Lin1	0.1406	0.4186							0.9920		0.9900
Tetrahydrofuran	++++ 0.0185	0.0214 0.0196	0.0216	0.0179	0.0193	Ave		0.0197				7.5		15.0			
Isobutyl alcohol	++++ 0.3751	0.3590 0.4553	0.3524	0.2964	0.3443	Ave		0.3638				14.3		15.0			
1,1,1-Trichloroethane	0.5285 0.4604	0.5365 0.4687	0.5497	0.4914	0.5294	Ave		0.5092				6.9		15.0			
Cyclohexane	++++ 0.5107	0.7379 ++++	0.7308	0.6624	0.6770	Ave		0.6638				13.8		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	++++ 0.4059	0.6250 ++++	0.5923	0.5046	0.4888	Lin1	0.2954	0.4150							0.9930		0.9900
Carbon tetrachloride	0.4183 0.4033	0.4412 0.4030	0.4621	0.4150	0.4608	Ave		0.4291				5.9		15.0			
1,2-Dichloroethane	0.2763 0.2284	0.2630 0.2238	0.2614	0.2287	0.2403	Ave		0.2460				8.4		15.0			
Benzene	1.5241 1.0210	1.4968 ++++	1.4973	1.3007	1.2694	Ave		1.3516				14.5		15.0			
n-Heptane	0.6928 0.5708	0.7034 0.5174	0.6644	0.7206	0.6998	Ave		0.6527				11.9		15.0			
Trichloroethene	0.4226 0.3058	0.4144 0.2773	0.3973	0.3641	0.3583	Lin1	0.0921	0.2946							0.9900		0.9900
2-Pentanone	++++ 0.0529	0.0474 0.0532	0.0460	0.0526	0.0567	Ave		0.0515				7.8		15.0			
1,2-Dichloropropane	++++ 0.2201	0.3259 ++++	0.3204	0.3024	0.2916	Ave		0.2921				14.6		30.0			
Methylcyclohexane	++++ 0.4080	++++ 0.3808	0.6267	0.5423	0.5526	Lin	1.0900	0.3657							0.9970		0.9900
1,4-Dioxane	++++ 0.0007	0.0006 0.0008	0.0007	0.0008	0.0008	Ave		0.0007				11.8		15.0			
Dibromomethane	0.1101 0.0929	0.1105 0.0925	0.1145	0.0967	0.1022	Ave		0.1028				8.8		15.0			
Dichlorobromomethane	0.2906 0.3059	0.3166 0.2991	0.3347	0.3091	0.3139	Ave		0.3100				4.5		15.0			
2-Chloroethyl vinyl ether	++++ 0.0109	0.0069 0.0121	0.0069	0.0088	0.0106	Lin1	-0.008	0.0118							0.9960		0.9900
cis-1,3-Dichloropropene	1.5382 1.7673	1.6625 1.6387	1.6643	1.7070	1.6875	Ave		1.6665				4.2		15.0			
4-Methyl-2-pentanone (MIBK)	0.0743 0.0753	0.0810 0.0741	0.0736	0.0782	0.0830	Ave		0.0771				4.9		15.0			
Toluene	++++ 1.0672	1.5184 ++++	1.4649	1.4522	1.3924	Ave		1.3790				13.1		30.0			
Ethyl methacrylate	0.5503 0.7462	0.6223 0.7409	0.6443	0.7155	0.7452	Ave		0.6807				11.2		15.0			
trans-1,3-Dichloropropene	0.2104 0.2600	0.2313 0.2611	0.2324	0.2619	0.2679	Ave		0.2464				8.8		15.0			
1,1,2-Trichloroethane	0.1439 0.1336	0.1397 0.1325	0.1414	0.1441	0.1505	Ave		0.1408				4.5		15.0			
Methyl n-butyl ketone (MNBK)	0.2181 0.2476	0.2270 0.2416	0.2215	0.2177	0.2336	Ave		0.2296				5.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichloropropane	1.2168 1.1427	1.2309 1.0439	1.2179	1.2212	1.1937	Ave		1.1810				5.7		15.0			
Tetrachloroethene	1.3207 1.0635	1.2851 0.9413	1.2842	1.2093	1.1698	Ave		1.1820				11.6		15.0			
Chlorodibromomethane	0.5470 0.8108	0.6138 ++++	0.6226	0.6293	0.7170	Ave		0.6567				14.1		15.0			
1,2-Dibromoethane	0.5318 0.6237	0.5670 0.6223	0.5839	0.5619	0.5823	Ave		0.5818				5.7		15.0			
1-Chlorohexane	2.5972 2.1843	2.6770 ++++	2.5905	2.6933	2.5669	Ave		2.5515				7.3		15.0			
Chlorobenzene	4.0267 2.9947	3.9600 ++++	3.8554	3.6719	3.5233	Ave		3.6720			0.3000	10.4		15.0			
1,1,1,2-Tetrachloroethane	0.8838 0.7740	0.9910 ++++	1.0372	0.9426	0.9501	Ave		0.9298				9.9		15.0			
Ethylbenzene	2.5067 1.7295	2.4627 ++++	2.4365	2.2966	2.1493	Ave		2.2636				12.9		30.0			
m-Xylene & p-Xylene	2.9203 2.4120	2.8969 2.1317	2.9319	2.8079	2.7143	Ave		2.6879				11.3		15.0			
o-Xylene	2.5116 1.8155	2.6391 ++++	2.6505	2.4334	2.2521	Ave		2.3837				13.2		15.0			
Styrene	3.5660 2.7850	3.7016 ++++	3.8118	3.6699	3.4319	Ave		3.4944				10.6		15.0			
Bromoform	++++ 0.3346	0.1913 0.3627	0.2239	0.2350	0.2714	Lin1	-0.263	0.3510			0.1000				0.9930		0.9900
Isopropylbenzene	5.6811 4.2694	5.8402 ++++	5.8645	5.3303	5.0661	Ave		5.3419				11.4		15.0			
Cyclohexanone	0.0125 0.0114	0.0096 0.0124	0.0097	0.0096	0.0111	Ave		0.0109				11.8		15.0			
1,1,2,2-Tetrachloroethane	0.5151 0.4878	0.5005 0.5011	0.5021	0.4661	0.4711	Ave		0.4920			0.3000	3.6		15.0			
trans-1,4-Dichloro-2-butene	0.0556 0.1026	0.0613 0.1083	0.0692	0.0741	0.0857	Lin1	-0.033	0.1039							0.9920		0.9900
1,2,3-Trichloropropane	0.1065 0.1181	0.1125 0.1251	0.1121	0.1055	0.1143	Ave		0.1135				6.0		15.0			
N-Propylbenzene	++++ 1.1387	1.5649 ++++	1.5837	1.4602	1.3745	Lin1	0.6692	1.1790							0.9900		0.9900
Bromobenzene	0.9174 0.6737	0.9323 ++++	0.9135	0.8668	0.8144	Ave		0.8530				11.5		15.0			
1,3,5-Trimethylbenzene	4.3395 3.1493	4.3208 ++++	4.4184	4.0122	3.8133	Ave		4.0089				12.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	1.2569 0.8943	1.2780 ++++	1.2653	1.1209	1.0730	Ave		1.1481				13.1		15.0			
4-Chlorotoluene	1.1932 1.0551	1.2360 0.9465	1.2589	1.1512	1.1460	Ave		1.1410				9.5		15.0			
tert-Butylbenzene	4.4662 3.2268	4.3148 ++++	4.3418	3.9576	3.8175	Ave		4.0208				11.5		15.0			
1,2,4-Trimethylbenzene	4.2759 3.3450	4.2150 2.8350	4.3657	3.9916	3.8112	Ave		3.8342				14.6		15.0			
sec-Butylbenzene	1.1821 0.9120	1.1632 0.8089	1.1696	1.0444	1.0466	Ave		1.0467				13.6		15.0			
4-Isopropyltoluene	4.7323 3.7611	4.6277 ++++	4.9547	4.4098	4.2656	Lin2	0.1604	4.3204							0.9910		0.9900
1,3-Dichlorobenzene	1.9781 1.6976	1.8574 1.5572	1.9211	1.7623	1.7474	Ave		1.7887				8.0		15.0			
1,4-Dichlorobenzene	1.9656 1.6270	1.8834 1.5077	1.8949	1.7361	1.6664	Ave		1.7544				9.5		15.0			
n-Butylbenzene	++++ 4.0212	4.8784 ++++	5.1548	4.5838	4.3574	Lin	2.4705	3.9576							0.9990		0.9900
1,2-Dichlorobenzene	1.4981 1.3586	1.4640 1.3160	1.4832	1.3809	1.4015	Ave		1.4146				4.9		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0611	0.0328 0.0705	0.0429	0.0424	0.0517	Lin1	-0.054	0.0670							0.9900		0.9900
1,2,4-Trichlorobenzene	0.8082 0.8975	0.7928 0.8351	0.8244	0.8225	0.8391	Ave		0.8314				4.0		15.0			
Hexachlorobutadiene	0.6862 0.6820	0.6240 0.6421	0.6847	0.6219	0.6383	Ave		0.6542				4.4		15.0			
Naphthalene	0.9915 1.2349	0.9877 1.2360	1.0150	1.0545	1.1226	Ave		1.0917				9.9		15.0			
1,2,3-Trichlorobenzene	0.6193 0.6738	0.5901 0.6331	0.5909	0.6062	0.6243	Ave		0.6197				4.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-420110/12	Q5046.D
Level 2	STD010 280-420110/13	Q5047.D
Level 3	STD020 280-420110/14	Q5048.D
Level 4	STD050 280-420110/15	Q5049.D
Level 5	STD10 280-420110/16	Q5050.D
Level 6	STD30 280-420110/17	Q5053.D
Level 7	STD60 280-420110/18	Q5052.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	28132 2506582	91475 4825549	194192	429179	808875	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	18411 1787668	53278 3287599	102231	318476	607553	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Lin1	15160 1064744	50799 1936879	99383	208893	343288	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	10920 753722	34357 +++++	61735	136864	262783	0.300 30.0	1.00 +++++	2.00	5.00	10.0
Chloroethane	FB	Ave	8262 636007	25078 1088939	45390	110821	225580	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	27394 2641593	105877 +++++	187051	481803	882952	0.300 30.0	1.00 +++++	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	43754 3430870	142965 6109087	266080	594853	1149565	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Lin1	10625 750427	32763 1148377	65163	119795	227049	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	10178 861769	34305 1570192	66299	124910	263109	3.00 300	10.00 600	20.0	50.0	100.0
Acetone	FB	Lin2	+++++ 466597	24604 854124	43051	79405	148635	+++++ 120	4.00 240	8.00	20.0	40.0
Freon 113	FB	Ave	16459 1638272	57060 2982565	110724	287358	562298	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	31258 2139157	93053 3865115	184328	374784	733991	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	38993 3219672	128570 5887822	255916	548313	1083074	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin2	+++++ 662463	29085 1151109	56026	111026	193690	+++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Lin1	46827 3470736	149152 5935424	304612	556953	1123417	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Tert-butyl alcohol (2-methyl-2-propanol)	TBAd 9	Ave	3523 394043	13652 697894	21945	57798	123208	3.00 300	10.0 600	20.0	50.0	100
Carbon disulfide	FB	Ave	113225 8826007	368058 15160468	755459	1526138	2935088	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methylene Chloride	FB	Lin1	48459 1742561	99781 3068743	171450	316040	605098	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	++++ 1657104	49958 3008734	113723	241820	514690	++++ 300	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	25407 2340019	81072 4028644	162652	351299	720669	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Lin1	33573 2188661	104999 3815398	209693	366786	739863	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	53914 4080355	172528 6316140	322380	712443	1319871	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	27548 3358334	94866 5765790	190120	416192	792037	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Lin1	53781 3931665	179579 6666070	354201	622176	1232673	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	++++ 1052938	38887 1890532	67707	148400	288437	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 1029311	36789 1746997	70207	157019	311409	++++ 900	30.0 1800	60.0	150	300
cis-1,2-Dichloroethene	FB	Lin1	++++ 2010969	99962 ++++	196354	334106	651679	++++ 30.0	1.00 ++++	2.00	5.00	10.0
2,2-Dichloropropane	FB	Lin1	42114 2419063	116985 3962572	236636	386373	743946	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Lin1	++++ 599942	28045 ++++	55482	103122	198826	++++ 30.0	1.00 ++++	2.00	5.00	10.0
Chloroform	FB	Lin1	45728 3323959	150511 5367930	297904	551505	1060468	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 287233	10504 526988	20670	40681	81797	++++ 60.0	2.00 120	4.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Ave	++++ 287642	8959 539714	18573	33169	77550	++++ 750	25.0 1500	50.0	125	250
1,1,1-Trichloroethane	FB	Ave	39767 3571149	131820 6296670	263150	557014	1119767	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	++++ 3961649	181314 ++++	349851	750881	1431885	++++ 30.0	1.00 ++++	2.00	5.00	10.0
1,1-Dichloropropene	FB	Lin1	++++ 3148229	153561 ++++	283542	571942	1033919	++++ 30.0	1.00 ++++	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	31478 3128446	108422 5414690	221222	470369	974695	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	20790 1771588	64630 3006527	125150	259245	508211	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	114690 7919958	367790 +++++	716822	1474364	2685072	0.300 30.0	1.00 +++++	2.00	5.00	10.0
n-Heptane	FB	Ave	52131 4428039	172848 6951187	318077	816838	1480134	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Lin1	31798 2371980	101824 3726303	190195	412714	757915	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	+++++ 1642866	46555 2857197	88175	238371	479565	+++++ 120	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	+++++ 1707614	80079 +++++	153398	342822	616853	+++++ 30.0	1.00 +++++	2.00	5.00	10.0
Methylcyclohexane	FB	Lin	+++++ 3165217	+++++ 5116481	300009	614675	1168853	+++++ 30.0	+++++ 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Ave	+++++ 109226	2967 212623	6637	17997	35568	+++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	8282 720327	27163 1243283	54799	109603	216142	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	21866 2373035	77783 4018278	160223	350344	663943	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Lin1	+++++ 84425	1697 162758	3320	10007	22388	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	24436 2788929	86915 4553973	170459	432971	830089	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	22378 2335339	79612 3980553	140912	354475	702510	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	+++++ 8278381	373097 +++++	701309	1646144	2945218	+++++ 30.0	1.00 +++++	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	8742 1177620	32536 2059079	65985	181476	366556	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	15832 2016773	56846 3507519	111247	296854	566629	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	10825 1036282	34334 1780843	67688	163380	318321	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	13860 1563256	47474 2685504	90736	220834	459661	1.20 120	4.00 240	8.00	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	19330 1803350	64350 2901106	124734	309747	587183	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	20980 1678357	67184 2615890	131529	306751	575455	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Ave	8689 1279447	32090 +++++	63766	159617	352695	0.300 30.0	1.00 +++++	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	8448 984270	29642 1729299	59800	142537	286420	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	41260 3446990	139953 ++++	265316	683154	1262675	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	63968 4725968	207031 ++++	394871	931374	1733150	0.300 30.0	1.00 ++++	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	14040 1221442	51808 ++++	106231	239096	467358	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	39821 2729393	128751 ++++	249541	582545	1057285	0.300 30.0	1.00 ++++	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	46392 3806356	151450 5924115	300285	712223	1335192	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	39900 2865084	137974 ++++	271461	617239	1107830	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	56649 4395060	193523 ++++	390400	930881	1688178	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin1	++++ 528084	9999 1008062	22933	59610	133498	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	111707 8869063	384078 ++++	767536	1727894	3261147	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	7955 716535	20066 1382623	39916	97483	217897	12.0 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	10128 1013263	32915 1843310	65716	151080	303255	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin1	1093 213213	4033 398390	9051	24012	55136	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	2094 245369	7399 460345	14674	34191	73583	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Lin1	++++ 2365506	102912 ++++	207275	473347	884796	++++ 30.0	1.00 ++++	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	18038 1399445	61314 ++++	119556	280988	524260	0.300 30.0	1.00 ++++	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	85327 6542296	284156 ++++	578280	1300624	2454658	0.300 30.0	1.00 ++++	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	24715 1857769	84049 ++++	165603	363363	690705	0.300 30.0	1.00 ++++	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	23462 2191816	81284 3481784	164758	373176	737674	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	87817 6703361	283757 ++++	568245	1282936	2457347	0.300 30.0	1.00 ++++	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	84077 6948886	277199 10428670	571376	1293940	2453299	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 420110

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/26/2018 14:23 Calibration End Date: 06/26/2018 17:02 Calibration ID: 32855

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Ave	23244 1894546	76499 2975649	153073	338555	673725	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Lin2	93051 7813263	304335 +++++	648466	1429525	2745803	0.300 30.0	1.00 +++++	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	38895 3526513	122151 5728153	251429	571267	1124806	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	38649 3379885	123857 5545898	247998	562771	1072668	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Lin	+++++ 8353493	320826 +++++	674658	1485931	2804924	+++++ 30.0	1.00 +++++	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	29456 2822349	96280 4840929	194125	447645	902151	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	+++++ 126958	2155 259307	5620	13756	33266	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	15891 1864493	52138 3071960	107894	266628	540110	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	13492 1416844	41037 2362061	89612	201606	410864	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	19495 2565331	64952 4546727	132848	341832	722616	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	12178 1399640	38809 2328845	77330	196511	401844	0.300 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin = Linear ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-415628/16 Calibration Date: 05/21/2018 10:50  
 Instrument ID: VMS\_H Calib Start Date: 05/21/2018 08:40  
 GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 05/21/2018 10:28  
 Lab File ID: H6514.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Ave	0.0028	0.0033		1170	1000	16.7	55.0
Ethanol	Lin2		0.0005		450	600	-25.0	55.0
Propene oxide	Ave	0.0137	0.0164		1200	1000	20.0	
2-Propanol	Ave	0.0049	0.0052		106	100	5.5	55.0
Acetonitrile	Lin2		0.0065		128	100	27.8	55.0
Di-isopropyl ether (DIPE)	Ave	0.2203	0.2397		10.9	10.0	8.8	35.0
Chloroprene	Ave	0.4869	0.5210		10.7	10.0	7.0	35.0
Tert-butyl ethyl ether	Ave	0.8338	0.9256		11.1	10.0	11.0	35.0
Ethyl acetate	Ave	0.1060	0.1186		22.4	20.0	11.9	55.0
Propionitrile	Ave	0.0072	0.0079		110	100	9.9	55.0
Methacrylonitrile	Ave	0.0563	0.0639		113	100	13.5	55.0
Tert-amyl methyl ether	Ave	0.6749	0.7195		10.7	10.0	6.6	35.0
n-Butanol	Lin2		0.0022		240	250	-4.1	55.0
Methyl methacrylate	Ave	0.0464	0.0478		20.6	20.0	2.9	35.0
2-Nitropropane	Lin1		0.0271		21.8	20.0	9.2	55.0
Tetrahydrothiophene	Lin2		0.1126		31.4	20.0	57.0*	55.0
cis-1,4-Dichloro-2-butene	Ave	0.1924	0.1760		18.3	20.0	-8.5	55.0
1,2,3-Trimethylbenzene	Ave	2.931	3.131		10.7	10.0	6.8	35.0
1,3,5-Trichlorobenzene	Ave	1.352	1.530		11.3	10.0	13.1	50.0
Dibromofluoromethane (Surr)	Ave	0.5406	0.5366		9.93	10.0	-0.7	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2690	0.2476		9.20	10.0	-8.0	35.0
Toluene-d8 (Surr)	Ave	4.427	4.315		9.75	10.0	-2.5	35.0
4-Bromofluorobenzene (Surr)	Ave	1.697	1.640		9.67	10.0	-3.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419443/17 Calibration Date: 06/21/2018 12:41  
Instrument ID: VMS\_H Calib Start Date: 04/04/2017 10:37  
GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 04/04/2017 12:48  
Lab File ID: H7644.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Lin2		0.0037		8.47	10.0	-15.3	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-419443/17 Calibration Date: 06/21/2018 12:41

Instrument ID: VMS\_H Calib Start Date: 06/21/2018 09:50

GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 06/21/2018 11:58

Lab File ID: H7644.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.5974		10.1	10.0	0.6	55.0
Chloromethane	Ave	0.2955	0.3230	0.1000	10.9	10.0	9.3	35.0
Vinyl chloride	Ave	0.2580	0.2839		11.0	10.0	10.0	35.0
Bromomethane	Ave	0.2780	0.3234		11.6	10.0	16.3	35.0
Chloroethane	Ave	0.1620	0.1915		11.8	10.0	18.2	35.0
Dichlorofluoromethane	Ave	0.6961	0.7361		10.6	10.0	5.7	55.0
Trichlorofluoromethane	Ave	0.7859	0.8687		11.1	10.0	10.5	50.0
Ethyl ether	Ave	0.1260	0.1287		10.2	10.0	2.1	35.0
Acrolein	Ave	0.0102	0.0078		77.1	100	-22.8	55.0
1,1-Dichloroethene	Ave	0.2922	0.2784		9.53	10.0	-4.7	35.0
Acetone	Ave	0.0193	0.0215		44.7	40.0	11.7	55.0
Freon 113	Ave	0.4527	0.4362		9.64	10.0	-3.6	55.0
Iodomethane	Ave	0.7872	0.7309		9.28	10.0	-7.2	35.0
Carbon disulfide	Ave	1.033	0.8925		8.64	10.0	-13.6	55.0
Allyl chloride	Lin2		0.3833		9.41	10.0	-5.9	35.0
Methyl acetate	Ave	0.0644	0.0607		47.1	50.0	-5.8	55.0
Methylene Chloride	Lin2		0.2502		9.42	10.0	-5.8	35.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.039	0.8661		83.4	100	-16.6	55.0
Acrylonitrile	Lin2		0.0191		93.0	100	-7.0	55.0
Methyl tert-butyl ether	Ave	0.5230	0.5137		9.82	10.0	-1.8	35.0
trans-1,2-Dichloroethene	Ave	0.3450	0.3343		9.69	10.0	-3.1	35.0
Hexane	Ave	1.883	1.646		8.74	10.0	-12.6	35.0
1,1-Dichloroethane	Ave	0.6414	0.5961	0.1000	9.29	10.0	-7.1	35.0
Vinyl acetate	Ave	0.2820	0.3040		21.6	20.0	7.8	55.0
2,2-Dichloropropane	Lin1		0.6537		9.00	10.0	-10.0	35.0
cis-1,2-Dichloroethene	Ave	0.3611	0.3637		10.1	10.0	0.7	35.0
Methyl ethyl ketone (MEK)	Ave	0.0386	0.0396		41.0	40.0	2.6	55.0
sec-Butyl Alcohol	Ave	0.8772	0.7722		264	300	-12.0	
Chlorobromomethane	Lin2		0.1691		9.12	10.0	-8.8	35.0
Tetrahydrofuran	Ave	0.0284	0.0250		17.6	20.0	-12.1	55.0
Chloroform	Ave	0.7373	0.7179		9.74	10.0	-2.6	35.0
1,1,1-Trichloroethane	Ave	0.7809	0.7309		9.36	10.0	-6.4	35.0
Cyclohexane	Ave	0.5641	0.4905		8.69	10.0	-13.1	35.0
1,1-Dichloropropene	Ave	0.6011	0.5591		9.30	10.0	-7.0	35.0
Carbon tetrachloride	Ave	0.7642	0.7107		9.30	10.0	-7.0	35.0
Isobutyl alcohol	Lin1		0.2781		194	250	-22.3	55.0
Benzene	Ave	1.018	0.9449		9.28	10.0	-7.2	35.0
1,2-Dichloroethane	Ave	0.3445	0.3128		9.08	10.0	-9.2	35.0
n-Heptane	Ave	0.6648	0.5575		8.39	10.0	-16.1	50.0
Trichloroethene	Ave	0.4995	0.4704		9.42	10.0	-5.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-419443/17 Calibration Date: 06/21/2018 12:41

Instrument ID: VMS\_H Calib Start Date: 06/21/2018 09:50

GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 06/21/2018 11:58

Lab File ID: H7644.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0994	0.0862		34.7	40.0	-13.3	55.0
Methylcyclohexane	Ave	0.5849	0.4959		8.48	10.0	-15.2	35.0
1,2-Dichloropropane	Ave	0.3640	0.3498		9.61	10.0	-3.9	35.0
Dibromomethane	Ave	0.2323	0.2234		9.62	10.0	-3.8	35.0
1,4-Dioxane	Lin2		0.0010		191	200	-4.3	55.0
Dichlorobromomethane	Ave	0.7018	0.6678		9.52	10.0	-4.8	35.0
cis-1,3-Dichloropropene	Ave	1.910	1.906		9.98	10.0	-0.2	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1529	0.1509		39.5	40.0	-1.3	55.0
Toluene	Ave	1.221	1.164		9.53	10.0	-4.7	35.0
trans-1,3-Dichloropropene	Ave	0.3933	0.3853		9.80	10.0	-2.0	35.0
Ethyl methacrylate	Ave	0.9938	0.9933		10.0	10.0	-0.0	35.0
1,1,2-Trichloroethane	Ave	0.2504	0.2452		9.79	10.0	-2.1	35.0
Tetrachloroethene	Ave	1.643	1.604		9.76	10.0	-2.4	35.0
1,3-Dichloropropane	Ave	1.437	1.420		9.88	10.0	-1.2	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.3486	0.3508		40.2	40.0	0.6	55.0
Chlorodibromomethane	Ave	1.817	1.766		9.72	10.0	-2.8	35.0
1,2-Dibromoethane	Ave	1.143	1.160		10.1	10.0	1.5	35.0
1-Chlorohexane	Ave	2.283	2.134		9.35	10.0	-6.5	35.0
Chlorobenzene	Ave	3.206	3.131	0.3000	9.77	10.0	-2.3	35.0
1,1,1,2-Tetrachloroethane	Ave	1.759	1.752		9.96	10.0	-0.4	35.0
Ethylbenzene	Ave	1.587	1.533		9.66	10.0	-3.4	35.0
m-Xylene & p-Xylene	Ave	2.111	2.083		9.87	10.0	-1.3	35.0
o-Xylene	Ave	1.863	1.843		9.89	10.0	-1.1	35.0
Styrene	Ave	2.857	2.850		9.97	10.0	-0.3	35.0
Bromoform	Lin2		1.076	0.1000	9.59	10.0	-4.1	35.0
Isopropylbenzene	Ave	3.522	3.282		9.32	10.0	-6.8	35.0
Cyclohexanone	Ave	0.0142	0.0152		426	400	6.6	35.0
1,1,2,2-Tetrachloroethane	Ave	0.6617	0.6440	0.3000	9.73	10.0	-2.7	35.0
Bromobenzene	Ave	0.8676	0.8554		9.86	10.0	-1.4	35.0
1,2,3-Trichloropropane	Ave	0.1678	0.1647		9.82	10.0	-1.8	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1411	0.1392		9.87	10.0	-1.3	55.0
N-Propylbenzene	Ave	0.8391	0.7835		9.34	10.0	-6.6	35.0
2-Chlorotoluene	Lin		0.6401		9.81	10.0	-1.9	35.0
1,3,5-Trimethylbenzene	Ave	2.768	2.578		9.31	10.0	-6.9	35.0
4-Chlorotoluene	Ave	0.8415	0.7984		9.49	10.0	-5.1	35.0
tert-Butylbenzene	Ave	2.964	2.770		9.35	10.0	-6.5	35.0
1,2,4-Trimethylbenzene	Ave	2.539	2.399		9.45	10.0	-5.5	35.0
sec-Butylbenzene	Ave	0.7624	0.7299		9.57	10.0	-4.3	35.0
1,3-Dichlorobenzene	Ave	1.223	1.186		9.70	10.0	-3.0	35.0
4-Isopropyltoluene	Ave	3.313	3.137		9.47	10.0	-5.3	35.0
1,4-Dichlorobenzene	Ave	2.011	1.926		9.58	10.0	-4.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419443/17 Calibration Date: 06/21/2018 12:41  
 Instrument ID: VMS\_H Calib Start Date: 06/21/2018 09:50  
 GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 06/21/2018 11:58  
 Lab File ID: H7644.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butylbenzene	Ave	3.163	2.963		9.37	10.0	-6.3	35.0
1,2-Dichlorobenzene	Ave	1.310	1.365		10.4	10.0	4.2	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.1186	0.1289		10.9	10.0	8.7	55.0
1,2,4-Trichlorobenzene	Lin2		0.9171		9.92	10.0	-0.8	35.0
Hexachlorobutadiene	Ave	0.997	1.037		10.4	10.0	4.0	35.0
Naphthalene	Ave	0.8129	0.8593		10.6	10.0	5.7	35.0
1,2,3-Trichlorobenzene	Lin2		0.7410		10.5	10.0	4.7	35.0
Dibromofluoromethane (Surr)	Ave	0.6053	0.6197		10.2	10.0	2.4	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.3096		10.0	10.0	0.1	35.0
Toluene-d8 (Surr)	Ave	4.250	4.346		10.2	10.0	2.3	35.0
4-Bromofluorobenzene (Surr)	Ave	1.293	1.280		9.91	10.0	-0.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420036/2 Calibration Date: 06/26/2018 09:00  
Instrument ID: VMS\_H Calib Start Date: 04/04/2017 10:37  
GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 04/04/2017 12:48  
Lab File ID: H7786.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Lin2					10.0	-100.0*	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420036/2 Calibration Date: 06/26/2018 09:00

Instrument ID: VMS\_H Calib Start Date: 06/21/2018 09:50

GC Column: DB-624 (75.53) ID: 0.53(mm) Calib End Date: 06/21/2018 11:58

Lab File ID: H7786.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.4883		8.26	10.0	-17.4	50.0
Chloromethane	Ave	0.2955	0.2637	0.1000	8.92	10.0	-10.8	35.0
Vinyl chloride	Ave	0.2580	0.2442		9.46	10.0	-5.4	20.0
Bromomethane	Ave	0.2780	0.2814		10.1	10.0	1.2	35.0
Chloroethane	Ave	0.1620	0.1651		10.2	10.0	1.9	35.0
Dichlorofluoromethane	Ave	0.6961	0.7086		10.2	10.0	1.8	50.0
Trichlorofluoromethane	Ave	0.7859	0.7509		9.55	10.0	-4.5	50.0
Ethyl ether	Ave	0.1260	0.1351		10.7	10.0	7.2	35.0
Acrolein	Ave	0.0102	0.0119		117	100	17.4	50.0
1,1-Dichloroethene	Ave	0.2922	0.3093		10.6	10.0	5.8	20.0
Acetone	Ave	0.0193	0.0186		38.6	40.0	-3.4	50.0
Freon 113	Ave	0.4527	0.4687		10.4	10.0	3.5	50.0
Iodomethane	Ave	0.7872	0.8413		10.7	10.0	6.9	35.0
Carbon disulfide	Ave	1.033	1.075		10.4	10.0	4.0	50.0
Allyl chloride	Lin2		0.4101		10.1	10.0	0.7	35.0
Methyl acetate	Ave	0.0644	0.0637		19.8	20.0	-1.0	50.0
Methylene Chloride	Lin2		0.2822		10.6	10.0	6.4	35.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.039	0.8465		81.5	100	-18.5	50.0
Acrylonitrile	Lin2		0.0198		96.6	100	-3.4	50.0
Methyl tert-butyl ether	Ave	0.5230	0.5216		9.97	10.0	-0.3	35.0
trans-1,2-Dichloroethene	Ave	0.3450	0.3627		10.5	10.0	5.1	35.0
Hexane	Ave	1.883	1.634		8.67	10.0	-13.3	35.0
1,1-Dichloroethane	Ave	0.6414	0.6252	0.1000	9.75	10.0	-2.5	35.0
Vinyl acetate	Ave	0.2820	0.2965		21.0	20.0	5.1	50.0
2,2-Dichloropropane	Lin1		0.7170		9.96	10.0	-0.4	35.0
cis-1,2-Dichloroethene	Ave	0.3611	0.3708		10.3	10.0	2.7	35.0
Methyl ethyl ketone (MEK)	Ave	0.0386	0.0365		37.8	40.0	-5.4	50.0
sec-Butyl Alcohol	Ave	0.8772	0.6997		239	300	-20.2	50.0
Chlorobromomethane	Lin2		0.1894		10.2	10.0	2.0	35.0
Tetrahydrofuran	Ave	0.0284	0.0237		16.6	20.0	-16.8	50.0
Chloroform	Ave	0.7373	0.7512		10.2	10.0	1.9	20.0
1,1,1-Trichloroethane	Ave	0.7809	0.7619		9.76	10.0	-2.4	35.0
Cyclohexane	Ave	0.5641	0.5336		9.46	10.0	-5.4	35.0
1,1-Dichloropropene	Ave	0.6011	0.5862		9.75	10.0	-2.5	35.0
Carbon tetrachloride	Ave	0.7642	0.7407		9.69	10.0	-3.1	35.0
Isobutyl alcohol	Lin1		0.2795		195	250	-21.9	50.0
Benzene	Ave	1.018	1.047		10.3	10.0	2.9	35.0
1,2-Dichloroethane	Ave	0.3445	0.3204		9.30	10.0	-7.0	35.0
n-Heptane	Ave	0.6648	0.5785		8.70	10.0	-13.0	50.0
Trichloroethene	Ave	0.4995	0.4900		9.81	10.0	-1.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420036/2 Calibration Date: 06/26/2018 09:00

Instrument ID: VMS\_H Calib Start Date: 06/21/2018 09:50

GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 06/21/2018 11:58

Lab File ID: H7786.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0994	0.0886		35.6	40.0	-10.9	50.0
Methylcyclohexane	Ave	0.5849	0.5292		9.05	10.0	-9.5	35.0
1,2-Dichloropropane	Ave	0.3640	0.3683		10.1	10.0	1.2	20.0
Dibromomethane	Ave	0.2323	0.2383		10.3	10.0	2.6	35.0
1,4-Dioxane	Lin2		0.0010		192	200	-3.8	50.0
Dichlorobromomethane	Ave	0.7018	0.6987		9.96	10.0	-0.4	35.0
cis-1,3-Dichloropropene	Ave	1.910	1.862		9.75	10.0	-2.5	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1529	0.1396		36.5	40.0	-8.7	50.0
Toluene	Ave	1.221	1.245		10.2	10.0	2.0	20.0
trans-1,3-Dichloropropene	Ave	0.3933	0.3977		10.1	10.0	1.1	35.0
Ethyl methacrylate	Ave	0.9938	0.9771		9.83	10.0	-1.7	35.0
1,1,2-Trichloroethane	Ave	0.2504	0.2420		9.66	10.0	-3.4	35.0
Tetrachloroethene	Ave	1.643	1.660		10.1	10.0	1.1	35.0
1,3-Dichloropropane	Ave	1.437	1.401		9.75	10.0	-2.5	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.3486	0.2981		34.2	40.0	-14.5	50.0
Chlorodibromomethane	Ave	1.817	1.739		9.57	10.0	-4.3	35.0
1,2-Dibromoethane	Ave	1.143	1.157		10.1	10.0	1.2	35.0
1-Chlorohexane	Ave	2.283	2.084		9.13	10.0	-8.7	35.0
Chlorobenzene	Ave	3.206	3.186	0.3000	9.94	10.0	-0.6	35.0
1,1,1,2-Tetrachloroethane	Ave	1.759	1.725		9.81	10.0	-1.9	35.0
Ethylbenzene	Ave	1.587	1.525		9.61	10.0	-3.9	20.0
m-Xylene & p-Xylene	Ave	2.111	2.124		10.1	10.0	0.6	35.0
o-Xylene	Ave	1.863	1.867		10.0	10.0	0.2	35.0
Styrene	Ave	2.857	2.896		10.1	10.0	1.4	35.0
Bromoform	Lin2		1.064	0.1000	9.48	10.0	-5.2	35.0
Isopropylbenzene	Ave	3.522	3.084		8.76	10.0	-12.4	35.0
Cyclohexanone	Ave	0.0142	0.0118		333	400	-16.8	50.0
1,1,2,2-Tetrachloroethane	Ave	0.6617	0.5985	0.3000	9.04	10.0	-9.6	35.0
Bromobenzene	Ave	0.8676	0.8216		9.47	10.0	-5.3	35.0
1,2,3-Trichloropropane	Ave	0.1678	0.1538		9.17	10.0	-8.3	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1411	0.1211		8.59	10.0	-14.1	50.0
N-Propylbenzene	Ave	0.8391	0.7519		8.96	10.0	-10.4	35.0
2-Chlorotoluene	Lin		0.6068		9.32	10.0	-6.8	35.0
1,3,5-Trimethylbenzene	Ave	2.768	2.443		8.83	10.0	-11.7	35.0
4-Chlorotoluene	Ave	0.8415	0.8098		9.62	10.0	-3.8	35.0
tert-Butylbenzene	Ave	2.964	2.646		8.93	10.0	-10.7	35.0
1,2,4-Trimethylbenzene	Ave	2.539	2.264		8.92	10.0	-10.8	35.0
sec-Butylbenzene	Ave	0.7624	0.6716		8.81	10.0	-11.9	35.0
1,3-Dichlorobenzene	Ave	1.223	1.229		10.1	10.0	0.5	35.0
4-Isopropyltoluene	Ave	3.313	2.997		9.05	10.0	-9.5	35.0
1,4-Dichlorobenzene	Ave	2.011	1.796		8.93	10.0	-10.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420036/2 Calibration Date: 06/26/2018 09:00  
 Instrument ID: VMS\_H Calib Start Date: 06/21/2018 09:50  
 GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 06/21/2018 11:58  
 Lab File ID: H7786.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butylbenzene	Ave	3.163	2.778		8.78	10.0	-12.2	35.0
1,2-Dichlorobenzene	Ave	1.310	1.259		9.61	10.0	-3.9	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.1186	0.1132		9.54	10.0	-4.6	50.0
1,2,4-Trichlorobenzene	Lin2		0.8358		9.06	10.0	-9.4	35.0
Hexachlorobutadiene	Ave	0.997	0.9511		9.54	10.0	-4.6	35.0
Naphthalene	Ave	0.8129	0.7678		9.45	10.0	-5.5	35.0
1,2,3-Trichlorobenzene	Lin2		0.6292		8.92	10.0	-10.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420036/3 Calibration Date: 06/26/2018 09:21  
 Instrument ID: VMS\_H Calib Start Date: 05/21/2018 08:40  
 GC Column: DB-624 (75.53) ID: 0.53(mm) Calib End Date: 05/21/2018 10:28  
 Lab File ID: H7787.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Ave	0.0028	0.0025		876	1000	-12.4	50.0
Ethanol	Lin2		0.0007		647	600	7.8	50.0
Propene oxide	Ave	0.0137	0.0150		1090	1000	9.4	50.0
2-Propanol	Ave	0.0049	0.0043		87.0	100	-13.0	50.0
Acetonitrile	Lin2		0.0042		78.5	100	-21.5	50.0
Di-isopropyl ether (DIPE)	Ave	0.2203	0.2621		11.9	10.0	19.0	35.0
Chloroprene	Ave	0.4869	0.4863		9.99	10.0	-0.1	35.0
Tert-butyl ethyl ether	Ave	0.8338	0.8345		10.0	10.0	0.0	35.0
Ethyl acetate	Ave	0.1060	0.0739		13.9	20.0	-30.3	50.0
Propionitrile	Ave	0.0072	0.0072		101	100	1.1	50.0
Methacrylonitrile	Ave	0.0563	0.0490		87.0	100	-13.0	50.0
Tert-amyl methyl ether	Ave	0.6749	0.7591		11.2	10.0	12.5	35.0
n-Butanol	Lin2		0.0017		194	250	-22.4	50.0
Methyl methacrylate	Ave	0.0464	0.0454		19.6	20.0	-2.2	35.0
2-Nitropropane	Lin1		0.0159		12.4	20.0	-37.8	50.0
Tetrahydrothiophene	Lin2		0.0320		10.1	20.0	-49.5	50.0
cis-1,4-Dichloro-2-butene	Ave	0.1924	0.1082		11.2	20.0	-43.8	50.0
1,2,3-Trimethylbenzene	Ave	2.931	2.346		8.00	10.0	-20.0	35.0
1,3,5-Trichlorobenzene	Ave	1.352	1.443		10.7	10.0	6.7	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420036/3 Calibration Date: 06/26/2018 09:21  
Instrument ID: VMS\_H Calib Start Date: 06/21/2018 09:50  
GC Column: DB-624 (75.53) ID: 0.53 (mm) Calib End Date: 06/21/2018 11:58  
Lab File ID: H7787.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.6053	0.6661		12.4	11.3	10.0	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3092	0.2791		10.2	11.3	-9.7	35.0
Toluene-d8 (Surr)	Ave	4.250	4.074		10.8	11.3	-4.1	35.0
4-Bromofluorobenzene (Surr)	Ave	1.293	1.178		10.3	11.3	-8.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-408278/24 Calibration Date: 03/19/2018 12:01  
 Instrument ID: VMS\_MS9 Calib Start Date: 03/19/2018 09:57  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 03/19/2018 11:40  
 Lab File ID: MS9\_7355.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Ave	0.0057	0.0059		1030	1000	3.3	55.0
Ethanol	Lin2		0.1200		580	600	-3.4	55.0
Propene oxide	Ave	0.0184	0.0202		1100	1000	9.9	
2-Propanol	Lin2		0.8736		107	100	7.1	55.0
Acetonitrile	Ave	0.0097	0.0105		108	100	8.1	55.0
Di-isopropyl ether (DIPE)	Ave	0.1998	0.2186		10.9	10.0	9.4	35.0
Chloroprene	Ave	0.5871	0.6273		10.7	10.0	6.9	35.0
Tert-butyl ethyl ether	Ave	0.6716	0.7384		11.0	10.0	9.9	35.0
Ethyl acetate	Ave	0.0742	0.0896		24.2	20.0	20.9	55.0
Propionitrile	Ave	0.0109	0.0120		110	100	9.9	55.0
Methacrylonitrile	Ave	0.0597	0.0649		109	100	8.6	55.0
Tert-amyl methyl ether	Ave	0.5343	0.5741		10.7	10.0	7.5	35.0
n-Butanol	Lin2		0.3323		256	250	2.3	55.0
Methyl methacrylate	Ave	0.0269	0.0294		21.8	20.0	9.2	35.0
2-Nitropropane	Lin2		0.0233		23.7	20.0	18.5	55.0
Tetrahydrothiophene	Ave	0.0828	0.0990		23.9	20.0	19.6	55.0
cis-1,4-Dichloro-2-butene	Ave	0.1136	0.1170		20.6	20.0	2.9	55.0
1,2,3-Trimethylbenzene	Ave	3.319	3.516		10.6	10.0	6.0	35.0
1,3,5-Trichlorobenzene	Ave	1.387	1.406		10.1	10.0	1.4	50.0
Dibromofluoromethane (Surr)	Ave	0.3100	0.2993		9.66	10.0	-3.4	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2636	0.2643		10.0	10.0	0.3	35.0
Toluene-d8 (Surr)	Ave	4.910	4.833		9.84	10.0	-1.6	35.0
4-Bromofluorobenzene (Surr)	Ave	1.092	1.066		9.76	10.0	-2.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-416844/17 Calibration Date: 05/31/2018 02:52

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_0695.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4203	0.3819		9.08	10.0	-9.2	55.0
Chloromethane	Ave	0.3951	0.3539	0.1000	8.96	10.0	-10.4	35.0
Vinyl chloride	Ave	0.4152	0.3773		9.09	10.0	-9.1	35.0
Bromomethane	Ave	0.2971	0.2719		9.15	10.0	-8.5	35.0
Chloroethane	Ave	0.2463	0.2215		8.99	10.0	-10.1	35.0
Dichlorofluoromethane	Ave	0.5988	0.5742		9.59	10.0	-4.1	55.0
Trichlorofluoromethane	Ave	0.5798	0.5371		9.26	10.0	-7.4	50.0
Ethyl ether	Ave	0.1332	0.1377		10.3	10.0	3.4	35.0
Acrolein	Ave	0.0122	0.0110		90.1	100	-9.9	55.0
Freon 113	Ave	0.2942	0.2789		9.48	10.0	-5.2	55.0
1,1-Dichloroethene	Ave	0.3169	0.2933		9.26	10.0	-7.4	35.0
Acetone	Lin2		0.0277		43.7	40.0	9.4	55.0
Iodomethane	Ave	0.5159	0.4987		9.67	10.0	-3.3	35.0
Methyl acetate	Ave	0.0645	0.0591		45.8	50.0	-8.4	55.0
Allyl chloride	Ave	0.5441	0.5063		9.30	10.0	-7.0	35.0
Carbon disulfide	Ave	1.198	1.165		9.73	10.0	-2.7	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0097	0.0093		95.7	100	-4.3	55.0
Methylene Chloride	Ave	0.2700	0.2489		9.22	10.0	-7.8	35.0
Methyl tert-butyl ether	Lin2		0.4111		9.84	10.0	-1.6	35.0
trans-1,2-Dichloroethene	Ave	0.3332	0.3161		9.49	10.0	-5.1	35.0
Acrylonitrile	Ave	0.0311	0.0295		94.8	100	-5.2	55.0
Hexane	Ave	2.103	2.048		9.74	10.0	-2.6	35.0
Vinyl acetate	Ave	0.2334	0.2292		19.6	20.0	-1.8	55.0
1,1-Dichloroethane	Ave	0.5372	0.5046	0.1000	9.39	10.0	-6.1	35.0
Methyl ethyl ketone (MEK)	Ave	0.0463	0.0454		39.2	40.0	-1.9	55.0
sec-Butyl Alcohol	Ave	0.8939	0.8773		294	300	-1.9	
2,2-Dichloropropane	Ave	0.5307	0.4839		9.12	10.0	-8.8	35.0
cis-1,2-Dichloroethene	Ave	0.3235	0.2979		9.21	10.0	-7.9	35.0
Chloroform	Ave	0.4891	0.4695		9.60	10.0	-4.0	35.0
Tetrahydrofuran	Ave	0.0266	0.0265		19.9	20.0	-0.3	55.0
Chlorobromomethane	Ave	0.1156	0.1117		9.66	10.0	-3.4	35.0
1,1,1-Trichloroethane	Ave	0.5304	0.5069		9.56	10.0	-4.4	35.0
Isobutyl alcohol	Ave	0.8898	0.8605		242	250	-3.3	55.0
Cyclohexane	Ave	0.5988	0.5799		9.68	10.0	-3.2	35.0
1,1-Dichloropropene	Ave	0.4531	0.4387		9.68	10.0	-3.2	35.0
Carbon tetrachloride	Ave	0.4898	0.4579		9.35	10.0	-6.5	35.0
n-Heptane	Ave	0.5660	0.5460		9.65	10.0	-3.5	50.0
Benzene	Ave	1.087	1.023		9.41	10.0	-5.9	35.0
1,2-Dichloroethane	Ave	0.2597	0.2464		9.49	10.0	-5.1	35.0
Trichloroethene	Ave	0.3384	0.3114		9.20	10.0	-8.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-416844/17 Calibration Date: 05/31/2018 02:52

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_0695.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0609	0.0598		39.3	40.0	-1.8	55.0
Methylcyclohexane	Ave	0.4969	0.4772		9.60	10.0	-4.0	35.0
1,2-Dichloropropane	Ave	0.2597	0.2447		9.42	10.0	-5.8	35.0
1,4-Dioxane	Ave	0.0011	0.0010		185	200	-7.7	55.0
Dibromomethane	Ave	0.1095	0.1026		9.37	10.0	-6.3	35.0
Dichlorobromomethane	Ave	0.3190	0.3015		9.45	10.0	-5.5	35.0
2-Chloroethyl vinyl ether	Ave	0.0747	0.0697		9.32	10.0	-6.8	55.0
cis-1,3-Dichloropropene	Ave	1.419	1.386		9.77	10.0	-2.3	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0877	0.0857		39.1	40.0	-2.3	55.0
Toluene	Ave	1.164	1.061		9.11	10.0	-8.9	35.0
Ethyl methacrylate	Ave	0.6863	0.6418		9.35	10.0	-6.5	35.0
trans-1,3-Dichloropropene	Ave	0.2756	0.2586		9.38	10.0	-6.2	35.0
1,1,2-Trichloroethane	Ave	0.1476	0.1380		9.35	10.0	-6.5	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2347	0.2438		41.5	40.0	3.9	55.0
Tetrachloroethene	Ave	1.223	1.133		9.26	10.0	-7.4	35.0
1,3-Dichloropropane	Ave	0.9876	0.9313		9.43	10.0	-5.7	35.0
Chlorodibromomethane	Ave	0.7875	0.7761		9.85	10.0	-1.5	35.0
1,2-Dibromoethane	Ave	0.5682	0.5451		9.59	10.0	-4.1	35.0
1-Chlorohexane	Ave	1.937	1.760		9.09	10.0	-9.1	35.0
Chlorobenzene	Ave	3.002	2.743	0.3000	9.14	10.0	-8.6	35.0
Ethylbenzene	Ave	1.933	1.776		9.19	10.0	-8.1	35.0
1,1,1,2-Tetrachloroethane	Ave	1.064	1.033		9.70	10.0	-3.0	35.0
m-Xylene & p-Xylene	Ave	4.355	4.030		9.25	10.0	-7.5	35.0
o-Xylene	Ave	2.124	1.961		9.24	10.0	-7.6	35.0
Styrene	Ave	3.187	2.928		9.19	10.0	-8.1	35.0
Bromoform	Ave	0.4338	0.4247	0.1000	9.79	10.0	-2.1	35.0
Isopropylbenzene	Ave	3.656	3.295		9.01	10.0	-9.9	35.0
Cyclohexanone	Ave	0.0128	0.0125		391	400	-2.3	35.0
1,1,2,2-Tetrachloroethane	Ave	0.3891	0.3566	0.3000	9.16	10.0	-8.4	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1436	0.1347		9.38	10.0	-6.2	55.0
N-Propylbenzene	Ave	1.142	1.018		8.91	10.0	-10.9	35.0
1,2,3-Trichloropropane	Ave	0.1123	0.1120		9.98	10.0	-0.2	35.0
Bromobenzene	Ave	0.8386	0.7511		8.96	10.0	-10.4	35.0
1,3,5-Trimethylbenzene	Ave	2.996	2.710		9.05	10.0	-9.5	35.0
2-Chlorotoluene	Ave	0.9483	0.8362		8.82	10.0	-11.8	35.0
4-Chlorotoluene	Ave	0.9348	0.8427		9.01	10.0	-9.9	35.0
tert-Butylbenzene	Ave	2.735	2.459		8.99	10.0	-10.1	35.0
1,2,4-Trimethylbenzene	Ave	3.017	2.689		8.92	10.0	-10.8	35.0
sec-Butylbenzene	Ave	0.9388	0.8234		8.77	10.0	-12.3	35.0
4-Isopropyltoluene	Ave	3.573	3.150		8.82	10.0	-11.8	35.0
1,3-Dichlorobenzene	Ave	1.666	1.481		8.89	10.0	-11.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-416844/17 Calibration Date: 05/31/2018 02:52  
 Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18  
 Lab File ID: MS9\_0695.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.626	1.444		8.88	10.0	-11.2	35.0
n-Butylbenzene	Ave	3.458	3.053		8.83	10.0	-11.7	35.0
1,2-Dichlorobenzene	Ave	1.372	1.238		9.03	10.0	-9.7	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0812	0.0767		9.45	10.0	-5.5	55.0
1,2,4-Trichlorobenzene	Ave	1.078	0.9518		8.83	10.0	-11.7	35.0
Hexachlorobutadiene	Ave	0.9090	0.7799		8.58	10.0	-14.2	35.0
Naphthalene	Ave	1.281	1.149		8.97	10.0	-10.3	35.0
1,2,3-Trichlorobenzene	Ave	0.8575	0.7728		9.01	10.0	-9.9	35.0
Dibromofluoromethane (Surr)	Lin2		0.2500		10.3	10.0	3.3	35.0
1,2-Dichloroethane-d4 (Surr)	Lin2		0.2208		11.3	10.0	12.9	35.0
Toluene-d8 (Surr)	Lin2		3.712		10.2	10.0	1.8	35.0
4-Bromofluorobenzene (Surr)	Lin2		0.8676		9.95	10.0	-0.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-418481/15 Calibration Date: 06/13/2018 23:07  
Instrument ID: VMS\_MS9 Calib Start Date: 06/13/2018 21:22  
GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 06/13/2018 22:46  
Lab File ID: MS9\_1301.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Lin1		0.2690		9.48	10.0	-5.2	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2398		9.79	10.0	-2.1	35.0
Toluene-d8 (Surr)	Lin1		3.717		9.81	10.0	-1.9	35.0
4-Bromofluorobenzene (Surr)	Lin1		0.8783		9.61	10.0	-3.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420653/2 Calibration Date: 06/29/2018 21:08

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_2063.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4203	0.4624		11.0	10.0	10.0	50.0
Chloromethane	Ave	0.3951	0.3862	0.1000	9.78	10.0	-2.2	35.0
Vinyl chloride	Ave	0.4152	0.4046		9.75	10.0	-2.5	20.0
Bromomethane	Ave	0.2971	0.2972		10.0	10.0	0.0	35.0
Chloroethane	Ave	0.2463	0.2401		9.75	10.0	-2.5	35.0
Dichlorofluoromethane	Ave	0.5988	0.6564		11.0	10.0	9.6	50.0
Trichlorofluoromethane	Ave	0.5798	0.6577		11.3	10.0	13.4	50.0
Ethyl ether	Ave	0.1332	0.1342		10.1	10.0	0.8	35.0
Acrolein	Ave	0.0122	0.0157		129	100	29.1	50.0
Freon 113	Ave	0.2942	0.3133		10.6	10.0	6.5	50.0
1,1-Dichloroethene	Ave	0.3169	0.3106		9.80	10.0	-2.0	20.0
Acetone	Lin2		0.0270		42.4	40.0	6.0	50.0
Iodomethane	Ave	0.5159	0.5288		10.2	10.0	2.5	35.0
Methyl acetate	Ave	0.0645	0.0676		21.0	20.0	4.8	50.0
Allyl chloride	Ave	0.5441	0.5170		9.50	10.0	-5.0	35.0
Carbon disulfide	Ave	1.198	1.138		9.50	10.0	-5.0	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0097	0.0103		107	100	6.5	50.0
Methylene Chloride	Ave	0.2700	0.2724		10.1	10.0	0.9	35.0
Methyl tert-butyl ether	Lin2		0.4282		10.3	10.0	2.5	35.0
trans-1,2-Dichloroethene	Ave	0.3332	0.3297		9.89	10.0	-1.1	35.0
Acrylonitrile	Ave	0.0311	0.0298		95.6	100	-4.4	50.0
Hexane	Ave	2.103	1.851		8.80	10.0	-12.0	35.0
Vinyl acetate	Ave	0.2334	0.2313		19.8	20.0	-0.9	50.0
1,1-Dichloroethane	Ave	0.5372	0.5433	0.1000	10.1	10.0	1.1	35.0
Methyl ethyl ketone (MEK)	Ave	0.0463	0.0461		39.8	40.0	-0.6	50.0
sec-Butyl Alcohol	Ave	0.8939	0.7892		265	300	-11.7	50.0
2,2-Dichloropropane	Ave	0.5307	0.5787		10.9	10.0	9.1	35.0
cis-1,2-Dichloroethene	Ave	0.3235	0.3266		10.1	10.0	1.0	35.0
Chloroform	Ave	0.4891	0.5342		10.9	10.0	9.2	20.0
Tetrahydrofuran	Ave	0.0266	0.0257		19.3	20.0	-3.3	50.0
Chlorobromomethane	Ave	0.1156	0.1262		10.9	10.0	9.1	35.0
1,1,1-Trichloroethane	Ave	0.5304	0.6021		11.4	10.0	13.5	35.0
Isobutyl alcohol	Ave	0.8898	0.8200		230	250	-7.8	50.0
Cyclohexane	Ave	0.5988	0.5847		9.76	10.0	-2.4	35.0
1,1-Dichloropropene	Ave	0.4531	0.4716		10.4	10.0	4.1	35.0
Carbon tetrachloride	Ave	0.4898	0.5654		11.5	10.0	15.4	35.0
n-Heptane	Ave	0.5660	0.5487		9.69	10.0	-3.1	50.0
Benzene	Ave	1.087	1.069		9.83	10.0	-1.7	35.0
1,2-Dichloroethane	Ave	0.2597	0.3097		11.9	10.0	19.3	35.0
Trichloroethene	Ave	0.3384	0.3495		10.3	10.0	3.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420653/2 Calibration Date: 06/29/2018 21:08

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_2063.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0609	0.0601		39.5	40.0	-1.4	50.0
Methylcyclohexane	Ave	0.4969	0.5127		10.3	10.0	3.2	35.0
1,2-Dichloropropane	Ave	0.2597	0.2572		9.91	10.0	-0.9	20.0
1,4-Dioxane	Ave	0.0011	0.0010		190	200	-5.0	50.0
Dibromomethane	Ave	0.1095	0.1188		10.8	10.0	8.5	35.0
Dichlorobromomethane	Ave	0.3190	0.3552		11.1	10.0	11.4	35.0
2-Chloroethyl vinyl ether	Ave	0.0747	0.0805		10.8	10.0	7.6	50.0
cis-1,3-Dichloropropene	Ave	1.419	1.335		9.41	10.0	-5.9	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0877	0.0835		38.1	40.0	-4.7	50.0
Toluene	Ave	1.164	1.133		9.73	10.0	-2.7	20.0
Ethyl methacrylate	Ave	0.6863	0.5686		8.29	10.0	-17.1	35.0
trans-1,3-Dichloropropene	Ave	0.2756	0.2904		10.5	10.0	5.4	35.0
1,1,2-Trichloroethane	Ave	0.1476	0.1478		10.0	10.0	0.2	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2347	0.2091		35.6	40.0	-10.9	50.0
Tetrachloroethene	Ave	1.223	1.208		9.87	10.0	-1.3	35.0
1,3-Dichloropropane	Ave	0.9876	0.9363		9.48	10.0	-5.2	35.0
Chlorodibromomethane	Ave	0.7875	0.7897		10.0	10.0	0.3	35.0
1,2-Dibromoethane	Ave	0.5682	0.5387		9.48	10.0	-5.2	35.0
1-Chlorohexane	Ave	1.937	1.724		8.91	10.0	-10.9	35.0
Chlorobenzene	Ave	3.002	2.803	0.3000	9.34	10.0	-6.6	35.0
Ethylbenzene	Ave	1.933	1.817		9.40	10.0	-6.0	20.0
1,1,1,2-Tetrachloroethane	Ave	1.064	1.085		10.2	10.0	1.9	35.0
m-Xylene & p-Xylene	Ave	4.355	4.082		9.37	10.0	-6.3	35.0
o-Xylene	Ave	2.124	1.973		9.29	10.0	-7.1	35.0
Styrene	Ave	3.187	2.905		9.11	10.0	-8.9	35.0
Bromoform	Ave	0.4338	0.4461	0.1000	10.3	10.0	2.8	35.0
Isopropylbenzene	Ave	3.656	3.110		8.51	10.0	-14.9	35.0
Cyclohexanone	Ave	0.0128	0.0112		348	400	-12.9	50.0
1,1,2,2-Tetrachloroethane	Ave	0.3891	0.3286	0.3000	8.45	10.0	-15.5	35.0
N-Propylbenzene	Ave	1.142	0.9934		8.70	10.0	-13.0	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1436	0.1291		8.99	10.0	-10.1	50.0
1,2,3-Trichloropropane	Ave	0.1123	0.1114		9.92	10.0	-0.8	35.0
Bromobenzene	Ave	0.8386	0.7390		8.81	10.0	-11.9	35.0
1,3,5-Trimethylbenzene	Ave	2.996	2.599		8.67	10.0	-13.3	35.0
2-Chlorotoluene	Ave	0.9483	0.8291		8.74	10.0	-12.6	35.0
4-Chlorotoluene	Ave	0.9348	0.8354		8.94	10.0	-10.6	35.0
tert-Butylbenzene	Ave	2.735	2.429		8.88	10.0	-11.2	35.0
1,2,4-Trimethylbenzene	Ave	3.017	2.628		8.71	10.0	-12.9	35.0
sec-Butylbenzene	Ave	0.9388	0.8354		8.90	10.0	-11.0	35.0
4-Isopropyltoluene	Ave	3.573	3.117		8.72	10.0	-12.8	35.0
1,3-Dichlorobenzene	Ave	1.666	1.500		9.00	10.0	-10.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420653/2 Calibration Date: 06/29/2018 21:08  
 Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18  
 Lab File ID: MS9\_2063.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.626	1.463		9.00	10.0	-10.0	35.0
n-Butylbenzene	Ave	3.458	3.044		8.80	10.0	-12.0	35.0
1,2-Dichlorobenzene	Ave	1.372	1.242		9.06	10.0	-9.4	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0812	0.0692		8.52	10.0	-14.8	50.0
1,2,4-Trichlorobenzene	Ave	1.078	1.011		9.38	10.0	-6.2	35.0
Hexachlorobutadiene	Ave	0.9090	0.9045		9.95	10.0	-0.5	35.0
Naphthalene	Ave	1.281	1.122		8.76	10.0	-12.4	35.0
1,2,3-Trichlorobenzene	Ave	0.8575	0.8216		9.58	10.0	-4.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420653/2 Calibration Date: 06/29/2018 21:08  
Instrument ID: VMS\_MS9 Calib Start Date: 06/13/2018 21:22  
GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 06/13/2018 22:46  
Lab File ID: MS9\_2063.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Lin1		0.2920		9.82	9.50	3.3	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2590		10.1	9.50	6.1	35.0
Toluene-d8 (Surr)	Lin1		3.824		9.55	9.50	0.5	35.0
4-Bromofluorobenzene (Surr)	Lin1		0.8389		8.61	9.50	-9.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
Instrument ID: VMS\_Q Calib Start Date: 06/22/2017 02:52  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/22/2017 04:37  
Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butanol	Ave	0.3936				250		



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
Instrument ID: VMS\_Q Calib Start Date: 04/11/2018 18:18  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 04/11/2018 20:02  
Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Lin					100	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
 Instrument ID: VMS\_Q Calib Start Date: 06/25/2018 12:56  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/25/2018 15:14  
 Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Qua		0.0023		1230	1000	23.2	55.0
Ethanol	Lin2		0.1579		749	600	24.8	55.0
Propene oxide	Ave	0.0118	0.0149		1260	1000	25.7	
2-Propanol	Lin1		0.7697		91.8	100	-8.2	55.0
Di-isopropyl ether (DIPE)	Ave	0.1622	0.1637		10.1	10.0	0.9	35.0
Chloroprene	Ave	0.4103	0.4391		10.7	10.0	7.0	35.0
Tert-butyl ethyl ether	Ave	0.4250	0.4373		10.3	10.0	2.9	35.0
Ethyl acetate	Ave	0.0477	0.0536		22.5	20.0	12.4	55.0
Propionitrile	Qua		0.0054		112	100	12.2	55.0
Methacrylonitrile	Ave	0.0406	0.0439		108	100	8.0	55.0
Tert-amyl methyl ether	Ave	0.3124	0.3197		10.2	10.0	2.3	35.0
Methyl methacrylate	Ave	0.0191	0.0187		19.6	20.0	-1.8	35.0
2-Nitropropane	Qua		0.0052		21.9	20.0	9.4	55.0
Tetrahydrothiophene	Ave	0.0494	0.0780		31.6	20.0	58.0*	55.0
cis-1,4-Dichloro-2-butene	Ave	0.1041	0.1004		19.3	20.0	-3.5	55.0
1,2,3-Trimethylbenzene	Ave	3.438	3.319		9.65	10.0	-3.5	35.0
1,3,5-Trichlorobenzene	Ave	1.171	1.012		8.64	10.0	-13.6	50.0
Dibromofluoromethane (Surr)	Ave	0.2287	0.2240		9.79	10.0	-2.1	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1652	0.1630		9.87	10.0	-1.3	35.0
Toluene-d8 (Surr)	Ave	5.858	5.554		9.48	10.0	-5.2	35.0
4-Bromofluorobenzene (Surr)	Ave	1.274	1.226		9.62	10.0	-3.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-420110/19 Calibration Date: 06/26/2018 17:48  
 Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02  
 Lab File ID: Q5055.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3707	0.3548		9.57	10.0	-4.3	55.0
Chloromethane	Ave	0.2455	0.2743	0.1000	11.2	10.0	11.7	35.0
Vinyl chloride	Lin1		0.1724		11.6	10.0	16.0	35.0
Bromomethane	Ave	0.1260	0.1179		9.36	10.0	-6.4	35.0
Chloroethane	Ave	0.0963	0.0954		9.90	10.0	-1.0	35.0
Dichlorofluoromethane	Ave	0.3948	0.3719		9.42	10.0	-5.8	55.0
Trichlorofluoromethane	Ave	0.5263	0.4926		9.36	10.0	-6.4	50.0
Acrolein	Ave	0.0125	0.0070		55.8	100	-44.2	55.0
Acetone	Lin2		0.0178		42.4	40.0	6.0	55.0
Vinyl acetate	Ave	0.1966	0.1742		17.7	20.0	-11.4	55.0
Methyl ethyl ketone (MEK)	Ave	0.0351	0.0357		40.6	40.0	1.5	55.0
2-Chloroethyl vinyl ether	Lin1		0.0096		8.82	10.0	-11.8	55.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0771	0.0824		42.8	40.0	6.9	55.0
Methyl n-butyl ketone (MNBK)	Ave	0.2296	0.2385		41.6	40.0	3.9	55.0
Cyclohexanone	Ave	0.0109	0.0109		401	400	0.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-421081/2 Calibration Date: 07/04/2018 09:33  
Instrument ID: VMS\_Q Calib Start Date: 06/25/2018 12:56  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/25/2018 15:14  
Lab File ID: Q5397.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2287	0.2278		11.0	11.0	-0.4	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1652	0.1778		11.8	11.0	7.6	35.0
Toluene-d8 (Surr)	Ave	5.858	5.111		9.60	11.0	-12.7	35.0
4-Bromofluorobenzene (Surr)	Ave	1.274	1.311		11.3	11.0	2.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-421081/2 Calibration Date: 07/04/2018 09:33

Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02

Lab File ID: Q5397.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3707	0.3958		10.7	10.0	6.8	50.0
Chloromethane	Ave	0.2455	0.2352	0.1000	9.58	10.0	-4.2	35.0
Vinyl chloride	Lin1		0.1685		11.3	10.0	13.3	20.0
Bromomethane	Ave	0.1260	0.1174		9.32	10.0	-6.8	35.0
Chloroethane	Ave	0.0963	0.0876		9.09	10.0	-9.1	35.0
Dichlorofluoromethane	Ave	0.3948	0.3004		7.61	10.0	-23.9	50.0
Trichlorofluoromethane	Ave	0.5263	0.4125		7.84	10.0	-21.6	50.0
Ethyl ether	Lin1		0.0728		7.64	10.0	-23.6	35.0
Acrolein	Ave	0.0125	0.0086		68.3	100	-31.7	50.0
Acetone	Lin2		0.0121		28.0	40.0	-30.0	50.0
Freon 113	Ave	0.2335	0.2485		10.6	10.0	6.4	50.0
1,1-Dichloroethene	Ave	0.3457	0.3086		8.93	10.0	-10.7	20.0
Iodomethane	Ave	0.4893	0.4366		8.92	10.0	-10.8	35.0
Methyl acetate	Lin2		0.0442		19.2	20.0	-3.9	50.0
Allyl chloride	Lin1		0.4736		10.2	10.0	2.2	35.0
Carbon disulfide	Ave	1.369	1.356		9.90	10.0	-1.0	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.283	1.369		107	100	6.7	50.0
Methylene Chloride	Lin1		0.2336		9.47	10.0	-5.3	35.0
Acrylonitrile	Ave	0.0223	0.0177		79.4	100	-20.6	50.0
Methyl tert-butyl ether	Ave	0.3228	0.2278		7.06	10.0	-29.4	35.0
trans-1,2-Dichloroethene	Lin1		0.3154		10.5	10.0	5.5	35.0
Hexane	Ave	2.885	3.036		10.5	10.0	5.3	35.0
Vinyl acetate	Ave	0.1966	0.1588		16.2	20.0	-19.2	50.0
1,1-Dichloroethane	Lin1		0.5687	0.1000	10.9	10.0	9.2	35.0
Methyl ethyl ketone (MEK)	Ave	0.0351	0.0242		27.5	40.0	-31.2	50.0
sec-Butyl Alcohol	Ave	1.168	1.108		285	300	-5.1	50.0
cis-1,2-Dichloroethene	Lin1		0.2979		10.6	10.0	6.2	35.0
2,2-Dichloropropane	Lin1		0.4080		13.0	10.0	29.6	35.0
Chlorobromomethane	Lin1		0.0857		10.2	10.0	1.6	35.0
Chloroform	Lin1		0.5024		11.7	10.0	16.7	20.0
Tetrahydrofuran	Ave	0.0197	0.0140		14.2	20.0	-29.2	50.0
Isobutyl alcohol	Ave	0.3638	0.3316		228	250	-8.8	50.0
1,1,1-Trichloroethane	Ave	0.5092	0.5113		10.0	10.0	0.4	35.0
Cyclohexane	Ave	0.6638	0.5837		8.79	10.0	-12.1	35.0
1,1-Dichloropropene	Lin1		0.5248		11.9	10.0	19.3	35.0
Carbon tetrachloride	Ave	0.4291	0.4727		11.0	10.0	10.2	35.0
1,2-Dichloroethane	Ave	0.2460	0.2243		9.12	10.0	-8.8	35.0
Benzene	Ave	1.352	1.243		9.20	10.0	-8.0	35.0
n-Heptane	Ave	0.6527	0.6508		9.97	10.0	-0.3	50.0
Trichloroethene	Lin1		0.3654		12.1	10.0	20.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-421081/2 Calibration Date: 07/04/2018 09:33

Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02

Lab File ID: Q5397.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0515	0.0392		30.5	40.0	-23.8	50.0
1,2-Dichloropropane	Ave	0.2921	0.2580		8.83	10.0	-11.7	20.0
Methylcyclohexane	Lin		0.4835		10.2	10.0	2.4	35.0
1,4-Dioxane	Ave	0.0007	0.0005		144	200	-27.9	50.0
Dibromomethane	Ave	0.1028	0.0882		8.58	10.0	-14.2	35.0
Dichlorobromomethane	Ave	0.3100	0.3049		9.84	10.0	-1.6	35.0
cis-1,3-Dichloropropene	Ave	1.666	1.612		9.67	10.0	-3.3	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0771	0.0527		27.3	40.0	-31.6	50.0
Toluene	Ave	1.379	1.327		9.63	10.0	-3.7	20.0
Ethyl methacrylate	Ave	0.6807	0.5336		7.84	10.0	-21.6	35.0
trans-1,3-Dichloropropene	Ave	0.2464	0.2236		9.07	10.0	-9.3	35.0
1,1,2-Trichloroethane	Ave	0.1408	0.1241		8.81	10.0	-11.9	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2296	0.1576		27.5	40.0	-31.3	50.0
1,3-Dichloropropane	Ave	1.181	1.092		9.24	10.0	-7.6	35.0
Tetrachloroethene	Ave	1.182	1.420		12.0	10.0	20.2	35.0
Chlorodibromomethane	Ave	0.6567	0.7262		11.1	10.0	10.6	35.0
1,2-Dibromoethane	Ave	0.5818	0.5405		9.29	10.0	-7.1	35.0
1-Chlorohexane	Ave	2.552	2.774		10.9	10.0	8.7	35.0
Chlorobenzene	Ave	3.672	3.662	0.3000	9.97	10.0	-0.3	35.0
1,1,1,2-Tetrachloroethane	Ave	0.9298	0.9827		10.6	10.0	5.7	35.0
Ethylbenzene	Ave	2.264	2.241		9.90	10.0	-1.0	20.0
m-Xylene & p-Xylene	Ave	2.688	2.871		10.7	10.0	6.8	35.0
o-Xylene	Ave	2.384	2.249		9.43	10.0	-5.7	35.0
Styrene	Ave	3.494	3.228		9.24	10.0	-7.6	35.0
Bromoform	Lin1		0.2701	0.1000	8.44	10.0	-15.6	35.0
Isopropylbenzene	Ave	5.342	5.997		11.2	10.0	12.3	35.0
Cyclohexanone	Ave	0.0109	0.0064		233	400	-41.7	50.0
1,1,2,2-Tetrachloroethane	Ave	0.4920	0.4410	0.3000	8.96	10.0	-10.4	35.0
trans-1,4-Dichloro-2-butene	Lin1		0.0631		6.39	10.0	-36.1	50.0
1,2,3-Trichloropropane	Ave	0.1135	0.1065		9.39	10.0	-6.1	35.0
N-Propylbenzene	Lin1		1.601		13.0	10.0	30.1	35.0
Bromobenzene	Ave	0.8530	0.8914		10.4	10.0	4.5	35.0
1,3,5-Trimethylbenzene	Ave	4.009	4.335		10.8	10.0	8.1	35.0
2-Chlorotoluene	Ave	1.148	1.231		10.7	10.0	7.2	35.0
4-Chlorotoluene	Ave	1.141	1.285		11.3	10.0	12.7	35.0
tert-Butylbenzene	Ave	4.021	4.501		11.2	10.0	11.9	35.0
1,2,4-Trimethylbenzene	Ave	3.834	4.246		11.1	10.0	10.7	35.0
sec-Butylbenzene	Ave	1.047	1.244		11.9	10.0	18.8	35.0
4-Isopropyltoluene	Lin2		5.016		11.6	10.0	15.7	35.0
1,3-Dichlorobenzene	Ave	1.789	1.938		10.8	10.0	8.3	35.0
1,4-Dichlorobenzene	Ave	1.754	1.819		10.4	10.0	3.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-421081/2 Calibration Date: 07/04/2018 09:33  
 Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02  
 Lab File ID: Q5397.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butylbenzene	Lin		5.165		12.4	10.0	24.3	35.0
1,2-Dichlorobenzene	Ave	1.415	1.462		10.3	10.0	3.3	35.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0409		6.91	10.0	-30.9	50.0
1,2,4-Trichlorobenzene	Ave	0.8314	0.8333		10.0	10.0	0.2	35.0
Hexachlorobutadiene	Ave	0.6542	0.8344		12.8	10.0	27.6	35.0
Naphthalene	Ave	1.092	0.8814		8.07	10.0	-19.3	35.0
1,2,3-Trichlorobenzene	Ave	0.6197	0.5683		9.17	10.0	-8.3	35.0
2-Chloroethyl vinyl ether	Lin1					10.0	-100.0*	50.0



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420036/6

Matrix: Water Lab File ID: H7789.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 06/26/2018 10:04

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (75.53) ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420036 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	113		77-120
2037-26-5	Toluene-d8 (Surr)	91		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420653/6

Matrix: Water Lab File ID: MS9\_2065.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 06/29/2018 21:50

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420653 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
460-00-4	4-Bromofluorobenzene (Surr)	91		78-120
1868-53-7	Dibromofluoromethane (Surr)	102		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-421081/6

Matrix: Water Lab File ID: Q5401.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 07/04/2018 11:04

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 421081 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	95		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	82		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>LCS 280-420036/4</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7788.D</u>
Analysis Method: <u>8260B</u>	Date Collected: _____
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 09:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.30		1.0	0.16
75-34-3	1,1-Dichloroethane	4.75		1.0	0.22
75-35-4	1,1-Dichloroethene	5.95		1.0	0.23
107-06-2	1,2-Dichloroethane	4.80		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	21.0		6.0	2.0
67-64-1	Acetone	20.4		10	1.9
71-43-2	Benzene	5.35		1.0	0.16
75-00-3	Chloroethane	5.53		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.66		1.0	0.15
100-41-4	Ethylbenzene	4.92		1.0	0.16
75-09-2	Methylene Chloride	5.70		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.67		2.0	0.34
95-47-6	o-Xylene	4.94		1.0	0.19
100-42-5	Styrene	4.96		1.0	0.17
127-18-4	Tetrachloroethene	5.64		1.0	0.20
108-88-3	Toluene	5.48		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.41		1.0	0.15
79-01-6	Trichloroethene	5.26		1.0	0.16
75-01-4	Vinyl chloride	4.47		1.0	0.10
1330-20-7	Xylenes, Total	9.61		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		70-127
460-00-4	4-Bromofluorobenzene (Surr)	88		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	106		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420653/4  
 Matrix: Water Lab File ID: MS9\_2064.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/29/2018 21:29  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420653 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.37		1.0	0.16
75-34-3	1,1-Dichloroethane	4.80		1.0	0.22
75-35-4	1,1-Dichloroethene	4.77		1.0	0.23
107-06-2	1,2-Dichloroethane	5.78		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	22.1		6.0	2.0
67-64-1	Acetone	20.7		10	1.9
71-43-2	Benzene	4.79		1.0	0.16
75-00-3	Chloroethane	4.80		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.77		1.0	0.15
100-41-4	Ethylbenzene	4.42		1.0	0.16
75-09-2	Methylene Chloride	4.99		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.35		2.0	0.34
95-47-6	o-Xylene	4.39		1.0	0.19
100-42-5	Styrene	4.10		1.0	0.17
127-18-4	Tetrachloroethene	4.72		1.0	0.20
108-88-3	Toluene	4.84		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.94		1.0	0.15
79-01-6	Trichloroethene	5.08		1.0	0.16
75-01-4	Vinyl chloride	4.58		1.0	0.10
1330-20-7	Xylenes, Total	8.74		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	88		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	94		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-421081/4

Matrix: Water Lab File ID: Q5399.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 07/04/2018 10:19

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 421081 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.79		1.0	0.16
75-34-3	1,1-Dichloroethane	4.66		1.0	0.22
75-35-4	1,1-Dichloroethene	4.30		1.0	0.23
107-06-2	1,2-Dichloroethane	4.02		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	13.3		6.0	2.0
67-64-1	Acetone	13.6		10	1.9
71-43-2	Benzene	4.06		1.0	0.16
75-00-3	Chloroethane	4.59		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.27		1.0	0.15
100-41-4	Ethylbenzene	4.66		1.0	0.16
75-09-2	Methylene Chloride	4.33		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.85		2.0	0.34
95-47-6	o-Xylene	4.61		1.0	0.19
100-42-5	Styrene	4.27		1.0	0.17
127-18-4	Tetrachloroethene	5.34		1.0	0.20
108-88-3	Toluene	4.66		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.48		1.0	0.15
79-01-6	Trichloroethene	5.02		1.0	0.16
75-01-4	Vinyl chloride	4.68		1.0	0.10
1330-20-7	Xylenes, Total	9.46		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	93		77-120
2037-26-5	Toluene-d8 (Surr)	83		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-421081/5

Matrix: Water Lab File ID: Q5400.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 07/04/2018 10:42

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 421081 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.89		1.0	0.16
75-34-3	1,1-Dichloroethane	4.98		1.0	0.22
75-35-4	1,1-Dichloroethene	4.29		1.0	0.23
107-06-2	1,2-Dichloroethane	4.34		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	14.0		6.0	2.0
67-64-1	Acetone	14.1		10	1.9
71-43-2	Benzene	4.42		1.0	0.16
75-00-3	Chloroethane	4.74		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.58		1.0	0.15
100-41-4	Ethylbenzene	4.86		1.0	0.16
75-09-2	Methylene Chloride	4.46		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.98		2.0	0.34
95-47-6	o-Xylene	4.65		1.0	0.19
100-42-5	Styrene	4.41		1.0	0.17
127-18-4	Tetrachloroethene	5.60		1.0	0.20
108-88-3	Toluene	4.89		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.81		1.0	0.15
79-01-6	Trichloroethene	5.53		1.0	0.16
75-01-4	Vinyl chloride	5.16		1.0	0.10
1330-20-7	Xylenes, Total	9.63		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
460-00-4	4-Bromofluorobenzene (Surr)	102		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	84		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-126 MS</u>	Lab Sample ID: <u>280-110865-1 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7793.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 10:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 11:34</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	2130		200	32
75-34-3	1,1-Dichloroethane	3340		200	44
75-35-4	1,1-Dichloroethene	1650		200	46
107-06-2	1,2-Dichloroethane	961		200	26
78-93-3	Methyl ethyl ketone (MEK)	3250		1200	400
67-64-1	Acetone	4050		2000	380
71-43-2	Benzene	1100		200	32
75-00-3	Chloroethane	1170		400	82
156-59-2	cis-1,2-Dichloroethene	47500		200	30
100-41-4	Ethylbenzene	2530		200	32
75-09-2	Methylene Chloride	1140		400	64
179601-23-1	m-Xylene & p-Xylene	1780		400	68
95-47-6	o-Xylene	1520		200	38
100-42-5	Styrene	1040		200	34
127-18-4	Tetrachloroethene	1070		200	40
108-88-3	Toluene	2660		200	34
156-60-5	trans-1,2-Dichloroethene	1210		200	30
79-01-6	Trichloroethene	1050		200	32
75-01-4	Vinyl chloride	16500		200	20
1330-20-7	Xylenes, Total	3300		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	105		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-110720-D-1 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2067.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/07/2018 09:20</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/29/2018 23:40</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420653</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	6.19		1.0	0.16
75-34-3	1,1-Dichloroethane	5.27		1.0	0.22
75-35-4	1,1-Dichloroethene	5.21		1.0	0.23
107-06-2	1,2-Dichloroethane	6.44		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	23.1		6.0	2.0
67-64-1	Acetone	24.3		10	1.9
71-43-2	Benzene	5.06		1.0	0.16
75-00-3	Chloroethane	5.02		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.31		1.0	0.15
100-41-4	Ethylbenzene	4.75		1.0	0.16
75-09-2	Methylene Chloride	5.24		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.75		2.0	0.34
95-47-6	o-Xylene	4.59		1.0	0.19
100-42-5	Styrene	4.42		1.0	0.17
127-18-4	Tetrachloroethene	4.89		1.0	0.20
108-88-3	Toluene	5.12		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.23		1.0	0.15
79-01-6	Trichloroethene	10.9		1.0	0.16
75-01-4	Vinyl chloride	4.61		1.0	0.10
1330-20-7	Xylenes, Total	9.34		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	119		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	112		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111289-C-6 MS

Matrix: Water Lab File ID: Q5404.D

Analysis Method: 8260B Date Collected: 06/21/2018 10:36

Sample wt/vol: 20 (mL) Date Analyzed: 07/04/2018 12:13

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 421081 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.91		1.0	0.16
75-34-3	1,1-Dichloroethane	5.01		1.0	0.22
75-35-4	1,1-Dichloroethene	4.51		1.0	0.23
107-06-2	1,2-Dichloroethane	21.1		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	36.4		6.0	2.0
67-64-1	Acetone	416		10	1.9
71-43-2	Benzene	132		1.0	0.16
75-00-3	Chloroethane	6.02		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.22		1.0	0.15
100-41-4	Ethylbenzene	12.6		1.0	0.16
75-09-2	Methylene Chloride	6.15		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	25.1		2.0	0.34
95-47-6	o-Xylene	8.23		1.0	0.19
100-42-5	Styrene	4.45		1.0	0.17
127-18-4	Tetrachloroethene	5.37		1.0	0.20
108-88-3	Toluene	23.2		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	3.91		1.0	0.15
79-01-6	Trichloroethene	5.65		1.0	0.16
75-01-4	Vinyl chloride	6.13		1.0	0.10
1330-20-7	Xylenes, Total	33.3		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	134	X	70-127
460-00-4	4-Bromofluorobenzene (Surr)	110		78-120
1868-53-7	Dibromofluoromethane (Surr)	87		77-120
2037-26-5	Toluene-d8 (Surr)	82		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-126 MSD</u>	Lab Sample ID: <u>280-110865-1 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>H7794.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/12/2018 10:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/26/2018 11:56</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (75.53)</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420036</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	2280		200	32
75-34-3	1,1-Dichloroethane	3960		200	44
75-35-4	1,1-Dichloroethene	1770		200	46
107-06-2	1,2-Dichloroethane	1010		200	26
78-93-3	Methyl ethyl ketone (MEK)	3850		1200	400
67-64-1	Acetone	4320		2000	380
71-43-2	Benzene	1170		200	32
75-00-3	Chloroethane	1170		400	82
156-59-2	cis-1,2-Dichloroethene	55000		200	30
100-41-4	Ethylbenzene	2660		200	32
75-09-2	Methylene Chloride	1230		400	64
179601-23-1	m-Xylene & p-Xylene	1890		400	68
95-47-6	o-Xylene	1620		200	38
100-42-5	Styrene	1100		200	34
127-18-4	Tetrachloroethene	1140		200	40
108-88-3	Toluene	2800		200	34
156-60-5	trans-1,2-Dichloroethene	1290		200	30
79-01-6	Trichloroethene	1130		200	32
75-01-4	Vinyl chloride	17400		200	20
1330-20-7	Xylenes, Total	3510		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	110		77-120
2037-26-5	Toluene-d8 (Surr)	107		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-110720-D-1 MSD

Matrix: Water Lab File ID: MS9\_2068.D

Analysis Method: 8260B Date Collected: 06/07/2018 09:20

Sample wt/vol: 20 (mL) Date Analyzed: 06/30/2018 00:01

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420653 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.89		1.0	0.16
75-34-3	1,1-Dichloroethane	5.12		1.0	0.22
75-35-4	1,1-Dichloroethene	4.90		1.0	0.23
107-06-2	1,2-Dichloroethane	6.33		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	23.6		6.0	2.0
67-64-1	Acetone	25.8		10	1.9
71-43-2	Benzene	4.99		1.0	0.16
75-00-3	Chloroethane	4.80		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.15		1.0	0.15
100-41-4	Ethylbenzene	4.54		1.0	0.16
75-09-2	Methylene Chloride	5.09		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.62		2.0	0.34
95-47-6	o-Xylene	4.56		1.0	0.19
100-42-5	Styrene	4.31		1.0	0.17
127-18-4	Tetrachloroethene	4.79		1.0	0.20
108-88-3	Toluene	5.04		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.00		1.0	0.15
79-01-6	Trichloroethene	10.6		1.0	0.16
75-01-4	Vinyl chloride	4.65		1.0	0.10
1330-20-7	Xylenes, Total	9.18		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		70-127
460-00-4	4-Bromofluorobenzene (Surr)	90		78-120
1868-53-7	Dibromofluoromethane (Surr)	102		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111289-C-6 MSD  
 Matrix: Water Lab File ID: Q5405.D  
 Analysis Method: 8260B Date Collected: 06/21/2018 10:36  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/04/2018 12:36  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 421081 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.83		1.0	0.16
75-34-3	1,1-Dichloroethane	4.95		1.0	0.22
75-35-4	1,1-Dichloroethene	4.35		1.0	0.23
107-06-2	1,2-Dichloroethane	20.1		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	51.0		6.0	2.0
67-64-1	Acetone	385		10	1.9
71-43-2	Benzene	122		1.0	0.16
75-00-3	Chloroethane	5.76		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.41		1.0	0.15
100-41-4	Ethylbenzene	11.8		1.0	0.16
75-09-2	Methylene Chloride	5.87		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	23.7		2.0	0.34
95-47-6	o-Xylene	8.00		1.0	0.19
100-42-5	Styrene	4.45		1.0	0.17
127-18-4	Tetrachloroethene	5.50		1.0	0.20
108-88-3	Toluene	22.6		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	3.88		1.0	0.15
79-01-6	Trichloroethene	5.72		1.0	0.16
75-01-4	Vinyl chloride	6.00		1.0	0.10
1330-20-7	Xylenes, Total	31.7		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	129	X	70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	84		77-120
2037-26-5	Toluene-d8 (Surr)	80		80-125



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_HStart Date: 05/21/2018 07:24Analysis Batch Number: 415628End Date: 05/21/2018 18:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-415628/1		05/21/2018 07:24	1	H6504.D	DB-624 (75.53) 0.53 (mm)
CCV 280-415628/2		05/21/2018 07:57	1		DB-624 (75.53) 0.53 (mm)
IC 280-415628/10		05/21/2018 08:40	1	H6508.D	DB-624 (75.53) 0.53 (mm)
IC 280-415628/11		05/21/2018 09:02	1	H6509.D	DB-624 (75.53) 0.53 (mm)
IC 280-415628/12		05/21/2018 09:24	1	H6510.D	DB-624 (75.53) 0.53 (mm)
ICIS 280-415628/13		05/21/2018 09:45	1	H6511.D	DB-624 (75.53) 0.53 (mm)
IC 280-415628/14		05/21/2018 10:07	1	H6512.D	DB-624 (75.53) 0.53 (mm)
IC 280-415628/15		05/21/2018 10:28	1	H6513.D	DB-624 (75.53) 0.53 (mm)
ICV 280-415628/16		05/21/2018 10:50	1	H6514.D	DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 11:11	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 11:32	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 11:54	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 12:17	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 12:38	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 13:00	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 13:21	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 13:43	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 14:04	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 14:26	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 14:47	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 15:09	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 15:30	1		DB-624 (75.53) 0.53 (mm)
CCVC 280-415628/30		05/21/2018 15:52	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 16:35	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 16:56	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 17:18	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 17:40	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 18:01	10		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 18:23	1		DB-624 (75.53) 0.53 (mm)
ZZZZZ		05/21/2018 18:44	1		DB-624 (75.53) 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_HStart Date: 06/21/2018 08:34Analysis Batch Number: 419443End Date: 06/21/2018 14:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-419443/1		06/21/2018 08:34	1	H7633.D	DB-624 (75.53) 0.53 (mm)
STD003 280-419443/10 IC		06/21/2018 09:50	1	H7636.D	DB-624 (75.53) 0.53 (mm)
ZZZZZ		06/21/2018 09:50	1		DB-624 (75.53) 0.53 (mm)
STD01 280-419443/11 IC		06/21/2018 10:11	1	H7637.D	DB-624 (75.53) 0.53 (mm)
ZZZZZ		06/21/2018 10:11	1		DB-624 (75.53) 0.53 (mm)
STD02 280-419443/12 IC		06/21/2018 10:33	1	H7638.D	DB-624 (75.53) 0.53 (mm)
ZZZZZ		06/21/2018 10:33	1		DB-624 (75.53) 0.53 (mm)
STD05 280-419443/13 IC		06/21/2018 10:54	1	H7639.D	DB-624 (75.53) 0.53 (mm)
ZZZZZ		06/21/2018 10:54	1		DB-624 (75.53) 0.53 (mm)
ICIS 280-419443/14		06/21/2018 11:15	1	H7640.D	DB-624 (75.53) 0.53 (mm)
ZZZZZ		06/21/2018 11:15	1		DB-624 (75.53) 0.53 (mm)
STD30 280-419443/15 IC		06/21/2018 11:37	1	H7641.D	DB-624 (75.53) 0.53 (mm)
STD60 280-419443/16 IC		06/21/2018 11:58	1	H7642.D	DB-624 (75.53) 0.53 (mm)
ICV 280-419443/17		06/21/2018 12:41	1	H7644.D	DB-624 (75.53) 0.53 (mm)
280-111106-A-1 MDLV		06/21/2018 13:24	1		DB-624 (75.53) 0.53 (mm)
280-111106-A-2 MDLV		06/21/2018 13:46	1		DB-624 (75.53) 0.53 (mm)
280-111106-A-3 MDLV		06/21/2018 14:07	1		DB-624 (75.53) 0.53 (mm)
280-111106-A-4 MDLV		06/21/2018 14:29	1		DB-624 (75.53) 0.53 (mm)
280-111106-A-5 MDLV		06/21/2018 14:50	1		DB-624 (75.53) 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_HStart Date: 06/26/2018 08:15Analysis Batch Number: 420036End Date: 06/26/2018 19:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420036/1		06/26/2018 08:15	1	H7784.D	DB-624 (75.53) 0.53 (mm)
CCV 280-420036/2		06/26/2018 09:00	1	H7786.D	DB-624 (75.53) 0.53 (mm)
CCV 280-420036/3		06/26/2018 09:21	1	H7787.D	DB-624 (75.53) 0.53 (mm)
LCS 280-420036/4		06/26/2018 09:43	1	H7788.D	DB-624 (75.53) 0.53 (mm)
MB 280-420036/6		06/26/2018 10:04	1	H7789.D	DB-624 (75.53) 0.53 (mm)
280-110865-1		06/26/2018 10:51	200	H7791.D	DB-624 (75.53) 0.53 (mm)
280-110865-1 DL		06/26/2018 11:13	2000	H7792.D	DB-624 (75.53) 0.53 (mm)
280-110865-1 MS		06/26/2018 11:34	200	H7793.D	DB-624 (75.53) 0.53 (mm)
280-110865-1 MSD		06/26/2018 11:56	200	H7794.D	DB-624 (75.53) 0.53 (mm)
280-110865-2		06/26/2018 12:17	1	H7795.D	DB-624 (75.53) 0.53 (mm)
280-110865-3		06/26/2018 12:39	1	H7796.D	DB-624 (75.53) 0.53 (mm)
280-110865-3 DL		06/26/2018 13:00	10	H7797.D	DB-624 (75.53) 0.53 (mm)
280-110865-4		06/26/2018 13:22	1	H7798.D	DB-624 (75.53) 0.53 (mm)
280-110865-5		06/26/2018 13:43	1	H7799.D	DB-624 (75.53) 0.53 (mm)
280-110865-6		06/26/2018 14:05	1	H7800.D	DB-624 (75.53) 0.53 (mm)
280-110865-7		06/26/2018 14:26	1	H7801.D	DB-624 (75.53) 0.53 (mm)
280-110865-8		06/26/2018 14:48	100	H7802.D	DB-624 (75.53) 0.53 (mm)
280-110865-8 DL		06/26/2018 15:09	1000	H7803.D	DB-624 (75.53) 0.53 (mm)
280-110865-9		06/26/2018 15:31	4	H7804.D	DB-624 (75.53) 0.53 (mm)
280-110865-9 DL		06/26/2018 15:53	40	H7805.D	DB-624 (75.53) 0.53 (mm)
280-110865-10		06/26/2018 16:14	40	H7806.D	DB-624 (75.53) 0.53 (mm)
280-110865-10 DL		06/26/2018 16:36	400	H7807.D	DB-624 (75.53) 0.53 (mm)
280-110865-11		06/26/2018 16:58	40	H7808.D	DB-624 (75.53) 0.53 (mm)
280-110865-11 DL		06/26/2018 17:19	400	H7809.D	DB-624 (75.53) 0.53 (mm)
280-110865-12		06/26/2018 17:41	1	H7810.D	DB-624 (75.53) 0.53 (mm)
280-110865-13		06/26/2018 18:02	1	H7811.D	DB-624 (75.53) 0.53 (mm)
280-110865-14		06/26/2018 18:24	1	H7812.D	DB-624 (75.53) 0.53 (mm)
280-110865-15		06/26/2018 18:45	1	H7813.D	DB-624 (75.53) 0.53 (mm)
280-110865-16		06/26/2018 19:07	4	H7814.D	DB-624 (75.53) 0.53 (mm)
280-110865-16 DL		06/26/2018 19:29	40	H7815.D	DB-624 (75.53) 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 03/19/2018 06:37Analysis Batch Number: 408278End Date: 03/19/2018 18:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-408278/1		03/19/2018 06:37	1	MS9_7339.D	RTX-624 0.53 (mm)
STD 280-408278/10 IC		03/19/2018 07:10	1		RTX-624 0.53 (mm)
STD 280-408278/11 IC		03/19/2018 07:30	1		RTX-624 0.53 (mm)
STD 280-408278/12 IC		03/19/2018 07:51	1		RTX-624 0.53 (mm)
STD 280-408278/13 IC		03/19/2018 08:12	1		RTX-624 0.53 (mm)
STD 280-408278/14 IC		03/19/2018 08:33	1		RTX-624 0.53 (mm)
STD 280-408278/15 IC		03/19/2018 08:54	1		RTX-624 0.53 (mm)
STD 280-408278/16 IC		03/19/2018 09:15	1		RTX-624 0.53 (mm)
ICV 280-408278/17		03/19/2018 09:36	1		RTX-624 0.53 (mm)
STD 280-408278/18 IC		03/19/2018 09:57	1	MS9_7349.D	RTX-624 0.53 (mm)
STD 280-408278/19 IC		03/19/2018 10:17	1	MS9_7350.D	RTX-624 0.53 (mm)
STD 280-408278/20 IC		03/19/2018 10:38	1	MS9_7351.D	RTX-624 0.53 (mm)
ICIS 280-408278/21		03/19/2018 10:59	1	MS9_7352.D	RTX-624 0.53 (mm)
STD 280-408278/22 IC		03/19/2018 11:20	1	MS9_7353.D	RTX-624 0.53 (mm)
STD 280-408278/23 IC		03/19/2018 11:40	1	MS9_7354.D	RTX-624 0.53 (mm)
ICV 280-408278/24		03/19/2018 12:01	1	MS9_7355.D	RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 12:22	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 12:43	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 13:04	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 13:25	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 13:45	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 14:06	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 14:27	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 14:48	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 15:09	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 15:30	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 15:51	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 16:12	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 16:33	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 16:54	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 17:15	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 17:36	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 17:57	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 18:18	400		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Start Date: 05/30/2018 19:18Analysis Batch Number: 416844 End Date: 05/31/2018 02:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-416844/1		05/30/2018 19:18	1	MS9_0683.D	RTX-624 0.53 (mm)
STD60 280-416844/10 IC		05/30/2018 23:13	1	MS9_0688.D	RTX-624 0.53 (mm)
STD30 280-416844/11 IC		05/30/2018 23:34	1	MS9_0689.D	RTX-624 0.53 (mm)
ICIS 280-416844/12		05/30/2018 23:55	1	MS9_0690.D	RTX-624 0.53 (mm)
STD5 280-416844/13 IC		05/31/2018 00:16	1	MS9_0691.D	RTX-624 0.53 (mm)
STD2 280-416844/14 IC		05/31/2018 00:36	1	MS9_0692.D	RTX-624 0.53 (mm)
STD1 280-416844/15 IC		05/31/2018 00:57	1	MS9_0693.D	RTX-624 0.53 (mm)
STD03 280-416844/16 IC		05/31/2018 01:18	1	MS9_0694.D	RTX-624 0.53 (mm)
ICV 280-416844/17		05/31/2018 02:52	1	MS9_0695.D	RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 06/13/2018 19:44Analysis Batch Number: 418481End Date: 06/14/2018 07:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-418481/1		06/13/2018 19:44	1	MS9_1292.D	RTX-624 0.53 (mm)
CCV 280-418481/2		06/13/2018 20:34	1		RTX-624 0.53 (mm)
CCV 280-418481/3		06/13/2018 20:55	1		RTX-624 0.53 (mm)
STD2 280-418481/10 IC		06/13/2018 21:22	1	MS9_1296.D	RTX-624 0.53 (mm)
STD5 280-418481/11 IC		06/13/2018 21:43	1	MS9_1297.D	RTX-624 0.53 (mm)
STD10 280-418481/12 IC		06/13/2018 22:04	1	MS9_1298.D	RTX-624 0.53 (mm)
STD30 280-418481/13 IC		06/13/2018 22:25	1	MS9_1299.D	RTX-624 0.53 (mm)
STD60 280-418481/14 IC		06/13/2018 22:46	1	MS9_1300.D	RTX-624 0.53 (mm)
ICV 280-418481/15		06/13/2018 23:07	1	MS9_1301.D	RTX-624 0.53 (mm)
ZZZZZ		06/13/2018 23:45	10		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 00:27	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 01:01	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 01:22	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 01:43	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 02:04	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 02:25	20		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 02:46	200		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 03:07	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 03:27	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 03:48	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 04:09	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 04:30	4		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 04:51	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 05:12	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 05:33	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 05:53	40		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 06:14	400		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 06:35	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 06:56	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 07:17	1		RTX-624 0.53 (mm)
CCVC 280-418481/37		06/14/2018 07:38	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 06/29/2018 19:40Analysis Batch Number: 420653End Date: 06/30/2018 07:39

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420653/1		06/29/2018 19:40	1	MS9_2059.D	RTX-624 0.53 (mm)
CCV 280-420653/3		06/29/2018 20:41	1	MS9_2062.D	RTX-624 0.53 (mm)
CCV 280-420653/2		06/29/2018 21:08	1	MS9_2063.D	RTX-624 0.53 (mm)
LCS 280-420653/4		06/29/2018 21:29	1	MS9_2064.D	RTX-624 0.53 (mm)
MB 280-420653/6		06/29/2018 21:50	1	MS9_2065.D	RTX-624 0.53 (mm)
ZZZZZ		06/29/2018 23:20	1		RTX-624 0.53 (mm)
280-110720-D-1 MS		06/29/2018 23:40	1	MS9_2067.D	RTX-624 0.53 (mm)
280-110720-D-1 MSD		06/30/2018 00:01	1	MS9_2068.D	RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 00:22	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 00:43	1		RTX-624 0.53 (mm)
280-110865-17		06/30/2018 01:47	100	MS9_2071.D	RTX-624 0.53 (mm)
280-110865-17 DL		06/30/2018 02:07	1000	MS9_2072.D	RTX-624 0.53 (mm)
280-110865-18		06/30/2018 02:28	200	MS9_2074.D	RTX-624 0.53 (mm)
280-110865-18 DL		06/30/2018 02:49	2000	MS9_2075.D	RTX-624 0.53 (mm)
280-110865-19		06/30/2018 03:10	2	MS9_2076.D	RTX-624 0.53 (mm)
280-110865-19 DL		06/30/2018 03:31	20	MS9_2077.D	RTX-624 0.53 (mm)
280-110865-20		06/30/2018 03:51	1	MS9_2078.D	RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 04:12	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 04:33	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 04:53	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 05:14	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 05:35	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 05:55	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 06:16	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 06:37	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 06:57	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 07:18	1		RTX-624 0.53 (mm)
ZZZZZ		06/30/2018 07:39	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 06/25/2018 08:50Analysis Batch Number: 419807End Date: 06/25/2018 19:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-419807/1		06/25/2018 08:50	1	Q4999.D	DB-624 (60.25) 0.25 (mm)
STD003 280-419807/11 IC		06/25/2018 09:40	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 09:40	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/12 IC		06/25/2018 10:01	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 10:01	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/13 IC		06/25/2018 10:22	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 10:22	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/14 IC		06/25/2018 10:42	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 10:42	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419807/15 IC		06/25/2018 11:03	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:03	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/16 IC		06/25/2018 11:24	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:24	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/17 IC		06/25/2018 11:46	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:46	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419807/18		06/25/2018 12:33	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/19 IC		06/25/2018 12:56	1	Q5010.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 12:56	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/20 IC		06/25/2018 13:19	1	Q5011.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 13:19	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-419807/22		06/25/2018 14:05	1	Q5013.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:05	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/23 IC		06/25/2018 14:28	1	Q5014.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:28	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/24 IC		06/25/2018 14:51	1	Q5015.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:51	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/21 IC		06/25/2018 15:14	1	Q5016.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 15:14	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419807/25		06/25/2018 15:59	1	Q5018.D	DB-624 (60.25) 0.25 (mm)
STD003 280-419807/26 IC		06/25/2018 16:45	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/27 IC		06/25/2018 17:08	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/28 IC		06/25/2018 17:29	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/29 IC		06/25/2018 17:50	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419807/30 IC		06/25/2018 18:10	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/31 IC		06/25/2018 18:31	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/32 IC		06/25/2018 18:52	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419807/33		06/25/2018 19:15	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 06/26/2018 12:51Analysis Batch Number: 420110End Date: 06/26/2018 17:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420110/1		06/26/2018 12:51	1	Q5042.D	DB-624 (60.25) 0.25 (mm)
STD003 280-420110/12 IC		06/26/2018 14:23	1	Q5046.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/26/2018 14:23	1		DB-624 (60.25) 0.25 (mm)
STD010 280-420110/13 IC		06/26/2018 14:44	1	Q5047.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/26/2018 14:44	1		DB-624 (60.25) 0.25 (mm)
STD020 280-420110/14 IC		06/26/2018 15:05	1	Q5048.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/26/2018 15:05	1		DB-624 (60.25) 0.25 (mm)
STD050 280-420110/15 IC		06/26/2018 15:28	1	Q5049.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/26/2018 15:28	1		DB-624 (60.25) 0.25 (mm)
STD10 280-420110/16 IC		06/26/2018 15:51	1	Q5050.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/26/2018 15:51	1		DB-624 (60.25) 0.25 (mm)
STD60 280-420110/18 IC		06/26/2018 16:38	1	Q5052.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/26/2018 16:38	1		DB-624 (60.25) 0.25 (mm)
STD30 280-420110/17 IC		06/26/2018 17:02	1	Q5053.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/26/2018 17:02	1		DB-624 (60.25) 0.25 (mm)
ICV 280-420110/19		06/26/2018 17:48	1	Q5055.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 07/04/2018 09:24Analysis Batch Number: 421081End Date: 07/04/2018 22:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-421081/1		07/04/2018 09:24	1	Q5396.D	DB-624 (60.25) 0.25 (mm)
CCV 280-421081/2		07/04/2018 09:33	1	Q5397.D	DB-624 (60.25) 0.25 (mm)
CCV 280-421081/3		07/04/2018 09:56	1	Q5398.D	DB-624 (60.25) 0.25 (mm)
LCS 280-421081/4		07/04/2018 10:19	1	Q5399.D	DB-624 (60.25) 0.25 (mm)
LCSD 280-421081/5		07/04/2018 10:42	1	Q5400.D	DB-624 (60.25) 0.25 (mm)
MB 280-421081/6		07/04/2018 11:04	1	Q5401.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 11:27	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 11:50	1		DB-624 (60.25) 0.25 (mm)
280-111289-C-6 MS		07/04/2018 12:13	1	Q5404.D	DB-624 (60.25) 0.25 (mm)
280-111289-C-6 MSD		07/04/2018 12:36	1	Q5405.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 12:59	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 13:22	20		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 13:45	200		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 14:08	50		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 14:30	500		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 14:52	50		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 15:15	500		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 15:38	2		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 16:01	20		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 16:23	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 16:45	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 17:08	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 17:30	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 17:52	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 18:15	2		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 18:37	20		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 19:00	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 19:22	10		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 19:44	10		DB-624 (60.25) 0.25 (mm)
280-110865-21		07/04/2018 20:07	1	Q5425.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 20:29	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 20:52	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 21:15	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 21:37	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 22:00	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 22:22	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/04/2018 22:44	1		DB-624 (60.25) 0.25 (mm)



Sequence Name: C:\HPCHEM\1\SEQUENCE\062618am.S

Comment:

Operator: wickhamt

Data Path: C:\HPCHEM\1\DATA\062618am\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument: H

DV-MS-0010 (8260/624) (Circle)

Purge Volume: (20ml)/5mL/5g

Time Time: 08:15 - 19:29 (Circle)

Line Batch: 420036

Method Sections To Run On A Barcode Mismatch  
(X) Full Method (X) Inject Anyway  
( ) Reprocessing Only ( ) Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1 Sample	100	H7784	BFB	BFB 08:15
2 Sample	1	H7785	8260	blank
3 Sample	2	H7786	8260	ccv m
4 Sample	3	H7787	8260	ccv s
5 Sample	4	H7788	8260	lcs
6 Sample	5	H7789	8260	mb af
7 Sample	6	H7790	8260	blank
8 Sample	7	H7791	8260	280-110865-C-1 0.1ml ph<2 E
9 Sample	8	H7792	8260	280-110865-C-1 0.01ml ph<2
10 Sample	9	H7793	8260	280-110865-C-1 ms 0.1ml ph<2
11 Sample	10	H7794	8260	280-110865-C-1 msd 0.1ml ph<2
12 Sample	11	H7795	8260	280-110865-E-2 20ml ph<2
13 Sample	12	H7796	8260	280-110865-D-3 2ml ph<2
14 Sample	13	H7797	8260	280-110865-D-3 20ml ph<2 af E
15 Sample	14	H7798	8260	280-110865-F-4 20ml ph<2 af
16 Sample	15	H7799	8260	280-110865-F-5 20ml ph<2 af
17 Sample	16	H7800	8260	280-110865-E-6 20ml ph<2 af
18 Sample	17	H7801	8260	280-110865-A-7 20ml ph<2
19 Sample	18	H7802	8260	280-110865-F-8 0.2ml ph<2 E
20 Sample	19	H7803	8260	280-110865-F-8 0.02ml ph<2
21 Sample	20	H7804	8260	280-110865-E-9 5ml ph<2 E
22 Sample	21	H7805	8260	280-110865-E-9 0.5ml ph<2
23 Sample	22	H7806	8260	280-110865-F-10 0.5ml ph<2 E
24 Sample	23	H7807	8260	280-110865-F-10 0.05ml ph<2
25 Sample	24	H7808	8260	280-110865-D-11 0.5ml ph<2 E
26 Sample	25	H7809	8260	280-110865-D-11 0.05ml ph<2
27 Sample	26	H7810	8260	280-110865-D-12 20ml ph<2 af
28 Sample	27	H7811	8260	280-110865-D-13 20ml ph<2 af
29 Sample	28	H7812	8260	280-110865-B-14 20ml ph<2
30 Sample	29	H7813	8260	280-110865-F-15 20ml ph<2
31 Sample	30	H7814	8260	280-110865-D-16 5ml ph<2 E
32 Sample	31	H7815	8260	280-110865-D-16 0.5ml ph<2 19:29
33				

6-27-18  
Taw



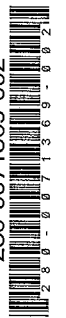










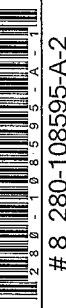








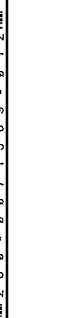
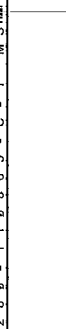
6-27-18  
Taw E










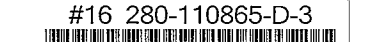
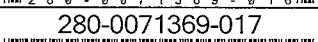
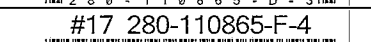
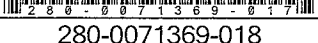
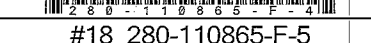
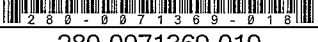
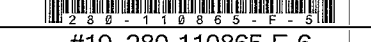










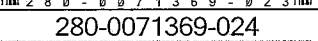
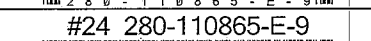
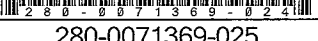
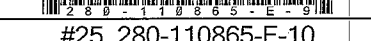
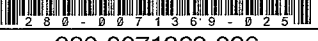







TestAmerica Laboratories  
Worklist Report

Worklist Name: 062618am  
Instrument Name: VMS\_H  
Purge Volume: 20.00  
Analysis Type: VOA  
Batch Directory: \\ChromNAIDenver\ChromData\VMS\_H\20180626-71369.b  
Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_H  
Run Reagent: MV-568718-D\_00014 Amount Added: 1.000, Units: uL  
Run Reagent: MV-ARCH SS A\_00096 Amount Added: 0.900, Units: uL











Worklist Number: 71369  
Chrom Method: AQ\_VMSH\_8260  
Units: mL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071369-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071369-002 	# 2 ccv 	MV-568718-D_00014 MV-2cleve+AVA_00036 MV-Main A_00036 MV-Gas/Ket A_00074	CCV	voaWater	20.00	mL	1.000
280-0071369-003 	# 3 ccv 	MV-Supp A_00029	CCV	voaWater	20.00	mL	1.000
280-0071369-004 	# 4 lcs 	MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043 MV-Main B_00021	LCS	voaWater	20.00	mL	1.000
280-0071369-005 	# 5 lcsd 	MV-Main B_00021 MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043	LCSd	voaWater	20.00	mL	1.000
280-0071369-006 	# 6 mb 		MB	voaWater	20.00	mL	1.000
280-0071369-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071369-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071369-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071369-010 	#10 280-110865-C-1 		Client	voaWater	20.00	mL	200.0
280-0071369-011 	#11 280-110865-C-1 		Client	voaWater	20.00	mL	2000.0
280-0071369-012 	#12 280-110865-C-1 MS 	MV-Main B_00021 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00041	MS	voaWater	20.00	mL	200.0



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071369-013 	#13 280-110865-C-1 MSD 	MV-Main B_00021 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00041	MSD	voaWater	20.00	mL	200.0
280-0071369-014 	#14 280-110865-E-2 		Client	voaWater	20.00	mL	1.000
280-0071369-015 	#15 280-110865-D-3 		Client	voaWater	20.00	mL	1.000
280-0071369-016 	#16 280-110865-D-3 		Client	voaWater	20.00	mL	10.00
280-0071369-017 	#17 280-110865-F-4 		Client	voaWater	20.00	mL	1.000
280-0071369-018 	#18 280-110865-F-5 		Client	voaWater	20.00	mL	1.000
280-0071369-019 	#19 280-110865-E-6 		Client	voaWater	20.00	mL	1.000
280-0071369-020 	#20 280-110865-A-7 		Client	voaWater	20.00	mL	1.000
280-0071369-021 	#21 280-110865-F-8 		Client	voaWater	20.00	mL	100.0
280-0071369-022 	#22 280-110865-F-8 		Client	voaWater	20.00	mL	1000.0
280-0071369-023 	#23 280-110865-E-9 		Client	voaWater	20.00	mL	4.000
280-0071369-024 	#24 280-110865-E-9 		Client	voaWater	20.00	mL	40.00
280-0071369-025 	#25 280-110865-F-10 		Client	voaWater	20.00	mL	40.00
280-0071369-026 	#26 280-110865-F-10 		Client	voaWater	20.00	mL	400.0
280-0071369-027 	#27 280-110865-D-11 		Client	voaWater	20.00	mL	40.00
280-0071369-028 	#28 280-110865-D-11 		Client	voaWater	20.00	mL	400.0
280-0071369-029 	#29 280-110865-D-12 		Client	voaWater	20.00	mL	1.000
280-0071369-030 	#30 280-110865-D-13 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID		Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071369-031 	#31 280-110865-B-14 			Client	voaWater	20.00	mL	1.000
280-0071369-032 	#32 280-110865-F-15 			Client	voaWater	20.00	mL	1.000
280-0071369-033 	#33 280-110865-D-16 			Client	voaWater	20.00	mL	4.000
280-0071369-034 	#34 280-110865-D-16 			Client	voaWater	20.00	mL	40.00
280-0071369-035 	#35 Samp 35 			Client	voaWater	20.00	mL	1.000



6/26/2018  
8:55AM

H

Sample Request Form: 48587

Page 1 of 2

den\_msvoa\_totalbacklog 6/26/2018 8:55:52 AM Assigned to: Wickham, Tom A

6-26-18  
TAW

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-110865-1 0.1/0.01	AFDV-126	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-2 20	AFDV-127	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-3 20/2	AFDV-128 (HS) 20=5mLat	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-4 20	AFDV-129 (HS) 5mLat	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & GC-Strge & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-5 20	AFDV-118 (HS) 5mLat	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge & 204 & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-6 20	AFDV-124 5mLat	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	GC-Strge & MS-Strge & 204	Unconfirmed
M DIL2/Use DF										
280-110865-7 20	AFDV-146 (HS)	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-8 0.2/0.02	AFDV-131 (HS)	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-9 5/0.5	AFDV-134 (HS)	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	GC-Strge & 204 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-10 0.5/0.05	AFDV-132	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge & GC-Strge & 204	Unconfirmed
M DIL2/Use DF										

6-26-18  
TAW



6/26/2018  
8:55AM

**Sample Request Form: 48587**

Page 2 of 2 -

den\_msvoa\_totalbacklog 6/26/2018 8:55:52 AM Assigned to:Wickham, Tom A

6-26-18  
T. Ann

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-110865-11 0.5/0.05	AFDV-133 (HS)	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	GC-Strge & MS-Strge & 204	Unconfirmed
M DIL2/Use DF										
280-110865-12 20	AFDV-108 Sm Lat	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge & GC-Strge & 204	Unconfirmed
M DIL2/Use DF										
280-110865-13 20	AFDV-116 (HS) Sm Lat	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	GC-Strge & MS-Strge & 204	Unconfirmed
M DIL2/Use DF										
280-110865-14 20	AFDV-147	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-15 20	AFDV-125 (HS)	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	GC-Strge & MS-Strge & 204	Unconfirmed
M DIL2/Use DF										
280-110865-16 5/0.5	AFDV-106 (HS)	ph <sup>2</sup>	8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-17 0.2/0.02	AFDV-119		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-18 0.1/0.01	AFDV-120		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge & GC-Strge & 204	Unconfirmed
M DIL2/Use DF										
280-110865-19 10/1	AFDV-110		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge & 204 & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-20 20	AFDV-148		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										



Sequence Name: C:\msdchem\1\sequence\062918PM.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\062918PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

On A Barcode Mismatch

(X) Inject Anyway

( ) Don't Inject

Test America Denver

Instrument: VSC

DV-MS-0010 (82608/624) (Circle)

Purge Volume: 20mL/5mL/5g  
(Circle)

Tune Time: 1940-779

Lims Datch: 420653

Line	Sample Name/Misc Info
1) Sample	100 MS9_2058 BFB BFB
2) Sample	100 MS9_2059 BFB BFB
3) Sample	10 MS9_2060 8260 BLK
4) Sample	11 MS9_2061 8260 CCV M
5) Sample	12 MS9_2062 8260 CCV S
6) Sample	13 MS9_2063 8260 CCV M 13
7) Sample	14 MS9_2064 8260 LCS
8) Sample	15 MS9_2065 8260 MB
9) Sample	16 MS9_2066 8260 280-111191-a-1 PH<2 OVERWITT
10) Sample	17 MS9_2067 8260 280-111191-a-2 PH<2 OVERWIT
11) Sample	18 MS9_2068 8260 280-111191-b-3 PH<2 OVERWIT
12) Sample	19 MS9_2065 8260 280-110720-b-1 PH<2
13) Sample	20 MS9_2066 8260 280-110720-d-1 MS PH<2
14) Sample	21 MS9_2067 8260 280-110720-d-1 MSD PH<2
15) Sample	22 MS9_2068 8260 280-110720-e-3 PH<2
16) Sample	23 MS9_2069 8260 280-110720-a-5 PH<2
17) Sample	24 MS9_2070 8260 280-110720-a-6 PH<2 <i>DATA overwritten</i>
18) Sample	25 MS9_2071 8260 280-110865-e-17 PH<2 10X HS
19) Sample	26 MS9_2072 8260 280-110865-e-17 PH<2 1000X HS <i>E in 400X</i>
20) Sample	27 MS9_2073 8260 280-110865-e-18 PH<2 200X
21) Sample	28 MS9_2074 8260 280-110865-e-18 PH<2 2000X
22) Sample	29 MS9_2075 8260 280-110865-d-19 PH<2 2X HS
23) Sample	30 MS9_2076 8260 280-110865-d-19 PH<2 20X HS
24) Sample	31 MS9_2077 8260 280-110865-b-20 PH<2
25) Sample	32 MS9_2078 8260 280-110912-b-2 PH<2
26) Sample	33 MS9_2079 8260 280-111191-a-1 PH<2
27) Sample	34 MS9_2080 8260 280-111191-a-2 PH<2
28) Sample	35 MS9_2081 8260 280-111191-b-3 PH<2
29) Sample	36 MS9_2082 8260 280-111085-d-1 PH<2 HS
30) Sample	37 MS9_2083 8260 280-111085-e-2 PH<2 HS
31) Sample	38 MS9_2084 8260 280-111085-e-6 PH<2 HS
32) Sample	39 MS9_2085 8260 280-111085-d-9 PH<2 HS
33) Sample	40 MS9_2086 8260 280-111085-e-11 PH<2 HS
34) Sample	41 MS9_2087 8260 280-110720-e-3 PH<2
35) Sample	42 MS9_2088 8260 280-110720-a-5 PH<2
36) Sample	43 MS9_2089 8260 280-110720-a-6 PH<2 <i>RA</i>
37) Sample	44 MS9_2090 8260 STUCK ON TRAP
38) Sample	45 MS9_2091 8260 PRIMER
39) Sample	46 MS9_2092 8260 PRIMER



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 062918pm

Worklist Number: 71529

Instrument Name: VMS\_MS9

Chrom Method: AQ\_VMSMS9\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180629-71529.b

QC Batching: Disabled

Limit Group Batching: Enabled











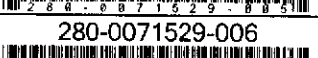

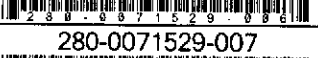





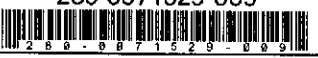




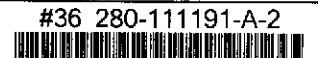
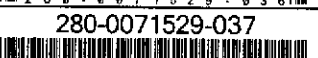
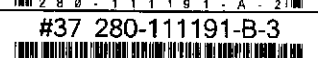
QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 420653
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
#35 280-111191-A-1	#35 280-111191-A-1
#36 280-111191-A-2	#36 280-111191-A-2
#37 280-111191-B-3	#37 280-111191-B-3
#38 280-110720-B-1	#38 280-110720-B-1
#39 280-110720-D-1 MS	#39 280-110720-D-1 MS
#40 280-110720-D-1 MSD	#40 280-110720-D-1 MSD
#41 280-110720-E-3	#41 280-110720-E-3
#42 280-110720-A-5	#42 280-110720-A-5
#43 280-110720-A-6	#43 280-110720-A-6
#44 280-110865-E-17	#44 280-110865-E-17
#45 280-110865-E-17	#45 280-110865-E-17
#46 280-110865-E-18	#46 280-110865-E-18
#47 280-110865-E-18	#47 280-110865-E-18
#48 280-110865-D-19	#48 280-110865-D-19
#49 280-110865-D-19	#49 280-110865-D-19
#50 280-110865-B-20	#50 280-110865-B-20
#51 280-110912-B-2	#51 280-110912-B-2
#52 280-110943-D-17	#52 280-110943-D-17
#53 280-110943-D-17	#53 280-110943-D-17
#54 280-110943-C-18	#54 280-110943-C-18
#55 280-110943-C-18	#55 280-110943-C-18
#56 280-110943-C-19	#56 280-110943-C-19
#57 280-111085-D-1	#57 280-111085-D-1
#58 280-111085-E-2	#58 280-111085-E-2
#59 280-111085-E-6	#59 280-111085-E-6
#60 280-111085-D-9	#60 280-111085-D-9
#61 280-111085-E-11	#61 280-111085-E-11
#62 Samp 62	#62 Samp 62







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 062918pm  
Instrument Name: VMS\_MS9  
Purge Volume: 20.00  
Analysis Type: VOA  
Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180629-71529.b  
Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
Run Reagent: MV-568718-D\_00014  
Run Reagent: MV-ARCH SS A\_00099







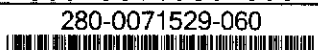
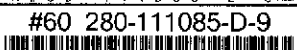
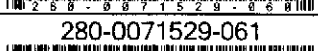
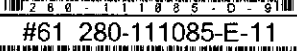
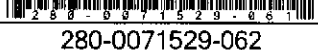

Worklist Number: 71529  
Chrom Method: AQ\_VMSMS9\_8260  
Units: mL  
Amount Added: 1.000, Units: uL  
Amount Added: 0.760, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071529-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071529-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00073	CCV	voaWater	20.00	mL	1.000
280-0071529-003 	# 3 CCV 	MV-Supp A_00029 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0071529-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCS	voaWater	20.00	mL	1.000
280-0071529-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCSD	voaWater	20.00	mL	1.000
280-0071529-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0071529-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071529-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071529-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071529-035 	#35 280-111191-A-1 		Client	voaWater	20.00	mL	1.000
280-0071529-036 	#36 280-111191-A-2 		Client	voaWater	20.00	mL	1.000
280-0071529-037 	#37 280-111191-B-3 		Client	voaWater	20.00	mL	1.000
280-0071529-038 	#38 280-110720-B-1 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071529-039 	#39 280-110720-D-1 MS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	MS	voaWater	20.00	mL	1.000
280-0071529-040 	#40 280-110720-D-1 MSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	MSD	voaWater	20.00	mL	1.000
280-0071529-041 	#41 280-110720-E-3 		Client	voaWater	20.00	mL	1.000
280-0071529-042 	#42 280-110720-A-5 		Client	voaWater	20.00	mL	1.000
280-0071529-043 	#43 280-110720-A-6 		Client	voaWater	20.00	mL	1.000
280-0071529-044 	#44 280-110865-E-17 		Client	voaWater	20.00	mL	100.0
280-0071529-045 	#45 280-110865-E-17 		Client	voaWater	20.00	mL	1000.0
280-0071529-046 	#46 280-110865-E-18 		Client	voaWater	20.00	mL	200.0
280-0071529-047 	#47 280-110865-E-18 		Client	voaWater	20.00	mL	2000.0
280-0071529-048 	#48 280-110865-D-19 		Client	voaWater	20.00	mL	2.000
280-0071529-049 	#49 280-110865-D-19 		Client	voaWater	20.00	mL	20.00
280-0071529-050 	#50 280-110865-B-20 		Client	voaWater	20.00	mL	1.000
280-0071529-051 	#51 280-110912-B-2 		Client	voaWater	20.00	mL	1.000
280-0071529-052 	#52 280-110943-D-17 		Client	voaWater	20.00	mL	400.0
280-0071529-053 	#53 280-110943-D-17 		Client	voaWater	20.00	mL	4000.0
280-0071529-054 	#54 280-110943-C-18 		Client	voaWater	20.00	mL	400.0
280-0071529-055 	#55 280-110943-C-18 		Client	voaWater	20.00	mL	4000.0
280-0071529-056 	#56 280-110943-C-19 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071529-057 	#57 280-111085-D-1 		Client	voaWater	20.00	mL	1.000
280-0071529-058 	#58 280-111085-E-2 		Client	voaWater	20.00	mL	1.000
280-0071529-059 	#59 280-111085-E-6 		Client	voaWater	20.00	mL	1.000
280-0071529-060 	#60 280-111085-D-9 		Client	voaWater	20.00	mL	1.000
280-0071529-061 	#61 280-111085-E-11 		Client	voaWater	20.00	mL	1.000
280-0071529-062 	#62 Samp 62 		Client	voaWater	20.00	mL	1.000



6/29/2018  
10:35PM

Sample Request Form: 48690

Page 1 of 2

den\_msvoa\_totalbacklog 6/29/2018 10:35:22 PM Assigned to: Scianna, Charles A

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-110865-17 100/1000 Hedge	AFDV-119		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-18 200/2000	AFDV-120		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-19 2/20 Hedge	AFDV-110		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	204 & MS-Strge & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110865-20	AFDV-148		8260B	8260B	06/26 23:59	06/29/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110912-2	MW38-170S-140W		8260B	8260B	06/27 23:59	06/29/18	BAS	CO	MS-Strge	Unconfirmed
DIL1										
280-110943-17 400/4000 Hedge	AFDV-141		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	213 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-18 400/4000	AFDV-142		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	213 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-19	AFDV-105		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-111085-1 Hedge	17685-CLF-9		8260B	8260B	06/26 23:59	06/27/18	BAS	AK	GC-Strge & MS-Strge	Unconfirmed
280-111085-2 HS	17685-CLF-16		8260B	8260B	06/26 23:59	06/27/18	BAS	AK	GC-Strge & MS-Strge	Unconfirmed
280-111085-6 HS	17685-CLF-17		8260B	8260B	06/26 23:59	06/27/18	BAS	AK	GC-Strge & MS-Strge	Unconfirmed



6/29/2018  
10:35PM

**Sample Request Form: 48690**

Page 2 of 2

den\_msvoa\_totalbacklog 6/29/2018 10:35:22 PM Assigned to:Scianna, Charles A

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-111085-9	17685-CLF-1 HS		8260B	8260B	06/26 23:59	06/27/18	BAS	AK	MS-Strge & GC-Strge	Unconfirmed
280-111085-11	17685-CLF-20 HS		8260B	8260B	06/26 23:59	06/27/18	BAS	AK	GC-Strge & MS-Strge	Unconfirmed



den msvoa totalbacklog 6/29/2018 10:56:06 PM Assigned to:Lines, Jeremy N

## Page 1 of 1

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-110720-1	B3J2C9		8260B	8260B	06/21 23:59	07/03/18	DFB	WA	Mits-Strge & MS-Strge	Level 1 radioactive
M Btch Hanford Separate_btch all samples in Job together_DIL3_CLIENT specific MS/MSD Req per batch										
280-110720-1MS	B3J2C9		8260B	8260B	06/21 23:59	07/03/18	DFB	WA		Level 1 radioactive
M Btch Hanford Separate_btch all samples in Job together_DIL3_CLIENT specific MS/MSD Req per batch										
280-110720-1MSD	B3J2C9		8260B	8260B	06/21 23:59	07/03/18	DFB	WA		Level 1 radioactive
M Btch Hanford Separate_btch all samples in Job together_DIL3_CLIENT specific MS/MSD Req per batch										
280-110720-3	B3J2C8		8260B	8260B	06/21 23:59	07/03/18	DFB	WA	Mits-Strge & MS-Strge	Level 1 radioactive
M Btch Hanford Separate_btch all samples in Job together_DIL3_CLIENT specific MS/MSD Req per batch										
280-110720-5	B3J5H5		8260B	8260B	06/21 23:59	07/03/18	DFB	WA	MS-Strge	Level 1 radioactive
M Btch Hanford Separate_btch all samples in Job together_DIL3_CLIENT specific MS/MSD Req per batch										
280-110720-6	B3J2B2		8260B	8260B	06/21 23:59	07/03/18	DFB	WA	MS-Strge	Level 1 radioactive
M Btch Hanford Separate_btch all samples in Job together_DIL3_CLIENT specific MS/MSD Req per batch										



6/29/2018  
9:08PM

Sample Request Form: 48681

Page 1 of 1

den\_msvoa\_totalbacklog 6/29/2018 9:08:03 PM Assigned to: Lines, Jeremy N

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-111191-1	B3001-TB-06152018		8260_DoD	8260_DoD	06/29 23:59	07/09/18	JNI	OK	MS-Strge	Unconfirmed
M Q4.2 / DIL1 / Use DF										
L 426128.09.GB.06.02										
280-111191-2	B3001-GW-P-2-06152018		8260_DoD	8260_DoD	06/29 23:59	07/09/18	JNI	OK	MS-Strge	Unconfirmed
M Q4.2 / DIL1 / Use DF										
280-111191-3	B3001-GW-M1-BR-06152018		8260_DoD	8260_DoD	06/29 23:59	07/09/18	JNI	OK	MS-Strge	Unconfirmed
M Q4.2 / DIL1 / Use DF										



Sequence Name: C:\msdchem\1\sequence\031918i.s

Comment:

Operator: DOBRANSKYM

Data Path: C:\MSDCHEM\1\DATA\031918i\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9  
DV-MS-0010 (8260B/624) (Circle)

Purge Volume: (20 mL/5 mL/5 g) (Circle)

Tune Time: 637-

Line Datch: 408 278

WL: 68105

*MS9*  
*3/9/18*

Call ID: Main 3/9/14

Supp 3/9/15

ICV: Ethyl acetate + 20.9%

1<sup>st</sup> level: *MS9* 3/9/18

2<sup>nd</sup> level: Tan 3-19-18

Line	Sample Name/Misc Info
1) Sample	100 MS9_7338 BFB BFB
2) Sample	100 MS9_7339 BFB BFB
3) Sample	9 MS9_7340 8260 BLK
4) Sample	10 MS9_7341 8260 STD
5) Sample	11 MS9_7342 8260 STD
6) Sample	12 MS9_7343 8260 STD
7) Sample	13 MS9_7344 8260 STD
8) Sample	14 MS9_7345 8260 STD
9) Sample	15 MS9_7346 8260 STD
10) Sample	16 MS9_7347 8260 STD
11) Sample	17 MS9_7348 8260 ICV
12) Sample	18 MS9_7349 8260 STD
13) Sample	19 MS9_7350 8260 STD
14) Sample	20 MS9_7351 8260 STD
15) Sample	21 MS9_7352 8260 ICIS
16) Sample	22 MS9_7353 8260 STD
17) Sample	23 MS9_7354 8260 STD
18) Sample	24 MS9_7355 8260 ICV
19) Sample	25 MS9_7356 8260 LCS
20) Sample	26 MS9_7357 8260 MB
21) Sample	27 MS9_7358 8260 280-107480-F-6 PH 5
22) Sample	28 MS9_7359 8260 280-107480-F-4 PH 5
23) Sample	29 MS9_7360 8260 280-107480-F-5 PH 5
24) Sample	30 MS9_7361 8260 280-107480-A-7 PH 5
25) Sample	31 MS9_7362 8260 280-107480-H-6 MS PH 5
26) Sample	32 MS9_7363 8260 280-107480-H-6 MSD PH 5
27) Sample	33 MS9_7364 8260 280-107463-B-1 PH<2 0.05mL
28) Sample	34 MS9_7365 8260 280-107463-B-2 PH<2 0.05mL
29) Sample	35 MS9_7366 8260 280-107463-B-3 PH<2 0.05mL
30) Sample	36 MS9_7367 8260 280-107463-B-4 PH<2 0.05mL
31) Sample	37 MS9_7368 8260 280-107463-B-5 PH<2 0.05mL
32) Sample	38 MS9_7369 8260 280-107463-B-6 PH<2 0.05mL
33) Sample	39 MS9_7370 8260 280-107463-B-7 PH<2 0.05mL
34) Sample	40 MS9_7371 8260 280-107463-B-8 PH<2 0.05mL
35) Sample	41 MS9_7372 8260 280-107463-B-9 PH<2 0.05mL
36) Sample	42 MS9_7373 8260 280-107463-B-10 PH<2 0.05mL
37) Sample	43 MS9_7374 8260 280-107463-B-11 PH 6 0.05mL



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 031918

Worklist Number: 68105

Instrument Name: VMS\_MS9

Chrom Method: AQ\_VMSMS9\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180319-68105.b

QC Batching: Disabled














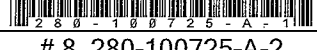
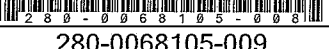
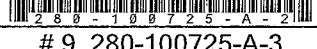
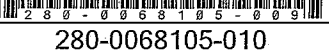

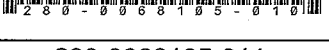
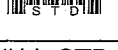




Limit Group Batching: Enabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 408278
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-100725-A-1	# 7 280-100725-A-1
# 8 280-100725-A-2	# 8 280-100725-A-2
# 9 280-100725-A-3	# 9 280-100725-A-3
#10 STD	#10 STD
#11 STD	#11 STD
#12 STD	#12 STD
#13 STD	#13 STD
#14 STD	#14 STD
#15 STD	#15 STD
#16 STD	#16 STD
#17 ICV	#17 ICV
#18 std	#18 std
#19 std	#19 std
#20 std	#20 std
#21 ICIS	#21 ICIS
#22 std	#22 std
#23 std	#23 std
#24 ICV	#24 ICV















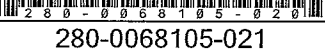


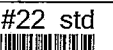




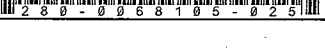
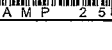




TestAmerica Laboratories  
Worklist Report

Worklist Name: 031918  
 Instrument Name: VMS\_MS9  
 Injection Volume: 1.000  
 Analysis Type: Semi VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180319-68105.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00092 Amount Added: 0.900, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0068105-001 	# 1 BFB 	MV-BFB_00025	BFB		voaWater	1.000	uL	1.000
280-0068105-002 	# 2 CCV 	MV-2cleve+AVA_00033 MV-Main A_00034 MV-Gas/Ket A_00071	CCV		voaWater	20.00	mL	1.000
280-0068105-003 	# 3 CCV 	MV-568718-D_00008 MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0068105-004 	# 4 LCS 	MV-SS 2-Cleve_00042 MV-Main B_00020 MV-Gas/Ket B_00041	LCS		voaWater	20.00	mL	1.000
280-0068105-005 	# 5 LCSD 	MV-SS 2-Cleve_00042 MV-Main B_00020 MV-Gas/Ket B_00041	LCSD		voaWater	20.00	mL	1.000
280-0068105-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0068105-007 	# 7 280-100725-A-1 		Client		voaWater	20.00	mL	1.000
280-0068105-008 	# 8 280-100725-A-2 		Client		voaWater	20.00	mL	1.000
280-0068105-009 	# 9 280-100725-A-3 		Client		voaWater	20.00	mL	1.000
280-0068105-010 	#10 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	1	voaWater	20.00	mL	1.000
280-0068105-011 	#11 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	2	voaWater	20.00	mL	1.000
280-0068105-012 	#12 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	3	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0068105-013 	#13 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	4	voaWater	20.00	mL	1.000
280-0068105-014 	#14 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	5	voaWater	20.00	mL	1.000
280-0068105-015 	#15 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	6	voaWater	20.00	mL	1.000
280-0068105-016 	#16 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	7	voaWater	20.00	mL	1.000
280-0068105-017 	#17 ICV 	MV-568718-D_00008 MV-Main B_00020 MV-Gas/Ket B_00041 MV-SS 2-Cleve_00042	ICV		voaWater	20.00	mL	1.000
280-0068105-018 	#18 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	2	voaWater	20.00	mL	1.000
280-0068105-019 	#19 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	3	voaWater	20.00	mL	1.000
280-0068105-020 	#20 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	4	voaWater	20.00	mL	1.000
280-0068105-021 	#21 ICIS 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	ICIS	5	voaWater	20.00	mL	1.000
280-0068105-022 	#22 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	6	voaWater	20.00	mL	1.000
280-0068105-023 	#23 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	7	voaWater	20.00	mL	1.000
280-0068105-024 	#24 ICV 	MV-568718-D_00008 MV-Supp B_00020 MV-ARCH SS A_00092	ICV		voaWater	20.00	mL	1.000
280-0068105-025 	#25 Samp 25 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\052118am.S

Comment:

Operator: moanm

Data Path: C:\HPCHEM\1\DATA\052118am\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument:

DV-MS-0010 (8260) (624) (Circle)

Purge Volume: (20mL/5mL/5g)

Tune Time: 7:24-18:44 (Circle)

Lims Batch: 415628

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Line Type Vial DataFile Method Sample Name

1 Sample	100 H6504	BFB	bfb
2 Sample	1 H6505	8260	blk
3 Sample	2 H6506	8260	ccv
4 Sample	3 H6507	8260	blk
5 Sample	4 H6508	8260	ic
6 Sample	5 H6509	8260	ic
7 Sample	6 H6510	8260	ic
8 Sample	7 H6511	8260	icis
9 Sample	8 H6512	8260	ic
10 Sample	9 H6513	8260	ic
11 Sample	10 H6514	8260	icv
12 Sample	11 H6515	8260	lcs
13 Sample	12 H6516	8260	lcsd
14 Sample	13 H6517	8260	mb
15 Sample	14 H6518	8260	280-109514-A-1 ph<2
16 Sample	15 H6519	8260	280-109514-A-2 ph<2
17 Sample	16 H6520	8260	280-109514-B-3 ph<2
18 Sample	17 H6521	8260	280-109514-A-6 ph<2
19 Sample	18 H6522	8260	280-109514-A-7 ph<2
20 Sample	19 H6523	8260	280-109514-A-8 ph<2
21 Sample	20 H6524	8260	280-109514-A-9 ph<2
22 Sample	21 H6525	8260	280-109514-A-15 ph<2
23 Sample	22 H6526	8260	280-109514-A-16 ph<2
24 Sample	23 H6527	8260	280-109514-A-17 ph<2
25 Sample	24 H6528	8260	ccvc
26 Sample	25 H6529	8260	blk
27 Sample	26 H6530	8260	280-109469-B-1 ph<2
28 Sample	27 H6531	8260	280-109469-D-2 ph<2
29 Sample	28 H6532	8260	280-109469-C-2 ph<2 MS
30 Sample	29 H6533	8260	280-109469-C-2 ph<2 MSD
31 Sample	30 H6534	8260	280-109469-D-2 ph<2
32 Sample	31 H6535	8260	280-109469-D-3 ph<2
33 Sample	32 H6536	8260	280-109469-C-4 ph<2
34 Sample	1 H6537	8260	primer
35 Sample	2 H6538	8260	primer

Supp  
ICAL

M

5-22-18

Supp/SS  
415628  
ICIS: 13  
ICV: 16

Av

ethanol -25.0%  
acetonitrile 27.8%  
tetrahydrothiophene 57.0%





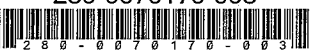



















2nd level: TAN 5-22-18







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 05218am  
 Instrument Name: VMS\_H  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_H\20180521-70170.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_H  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00096

Worklist Number: 70170  
 Chrom Method: AQ\_VMSH\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.840, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070170-001 	# 1 BFB 	MV-BFB_00025	BFB		voaWater	1.000	uL	1.000
280-0070170-002 	# 2 ccv 	MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00035 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0070170-003 	# 3 ccv 	MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0070170-004 	# 4 lcs 	MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043 MV-Main B_00021	LCS		voaWater	20.00	mL	1.000
280-0070170-005 	# 5 lcsd 	MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043 MV-Main B_00021	LCSD		voaWater	20.00	mL	1.000
280-0070170-006 	# 6 mb 		MB		voaWater	20.00	mL	1.000
280-0070170-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	uL	1.000
280-0070170-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0070170-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0070170-010 	#10 ic 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Supp A_00029	IC	2	voaWater	20.00	mL	1.000
280-0070170-011 	#11 ic 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Supp A_00029	IC	3	voaWater	20.00	mL	1.000
280-0070170-012 	#12 ic 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Supp A_00029	IC	4	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070170-013 	#13 icis 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Supp A_00029	ICIS	5	voaWater	20.00	mL	1.000
280-0070170-014 	#14 ic 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Supp A_00029	IC	6	voaWater	20.00	mL	1.000
280-0070170-015 	#15 ic 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Supp A_00029	IC	7	voaWater	20.00	mL	1.000
280-0070170-016 	#16 icv 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Supp B_00020	ICV		voaWater	20.00	mL	1.000
280-0070170-017 	#17 lcs 	MV-Main B_00021 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	LCS		voaWater	20.00	mL	1.000
280-0070170-018 	#18 lcsd 	MV-Main B_00021 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	LCSD		voaWater	20.00	mL	1.000
280-0070170-019 	#19 mb 		MB		voaWater	20.00	mL	1.000
280-0070170-020 	#20 280-109514-A-1 		Client		voaWater	20.00	mL	1.000
280-0070170-021 	#21 280-109514-A-2 		Client		voaWater	20.00	mL	1.000
280-0070170-022 	#22 280-109514-B-3 		Client		voaWater	20.00	mL	1.000
280-0070170-023 	#23 280-109514-A-6 		Client		voaWater	20.00	mL	1.000
280-0070170-024 	#24 280-109514-A-7 		Client		voaWater	20.00	mL	1.000
280-0070170-025 	#25 280-109514-A-8 		Client		voaWater	20.00	mL	1.000
280-0070170-026 	#26 280-109514-A-9 		Client		voaWater	20.00	mL	1.000
280-0070170-027 	#27 280-109514-A-15 		Client		voaWater	20.00	mL	1.000
280-0070170-028 	#28 280-109514-A-16 		Client		voaWater	20.00	mL	1.000
280-0070170-029 	#29 280-109514-A-17 		Client		voaWater	20.00	mL	1.000
280-0070170-030 	#30 CCVC 	MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00035	CCVC		voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\053018PM.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\053018PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9

V-MS-0010 (82603/624) (Circle)

Purge Volume: (20) mL/5mL/5g

Tune Time: 1918 - 252 (Circle)

Time Path: 416844

WL: 170509

-----  
Line Sample Name/Misc Info

1)	Sample	100	MS9_0683 BFB	BFB
2)	Sample	10	MS9_0684 8260	BLK
3)	Sample	11	MS9_0685 8260	CCV M
4)	Sample	12	MS9_0686 8260	CCV S
5)	Sample	13	MS9_0687 8260	BLK
6)	Sample	14	MS9_0688 8260	STD60
7)	Sample	15	MS9_0689 8260	STD30
8)	Sample	16	MS9_0690 8260	STD10
9)	Sample	17	MS9_0691 8260	STD5
10)	Sample	18	MS9_0692 8260	STD2
11)	Sample	19	MS9_0693 8260	STD1
12)	Sample	20	MS9_0694 8260	STD03
13)	Sample	21	MS9_0695 8260	ICV
14)	Sample	22	MS9_0696 8260	PRIMER
15)	Sample	23	MS9_0697 8260	ICV
16)	Sample	24	MS9_0698 8260	BLK

Calibration Event ID: 32565

ICIS Line 12

ICV Line 17

Q5

1st level: MSD 5/31/18  
2nd level: Tan 5-31-18



Sequence Name: C:\msdchem\1\sequence\061318PM.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\061318PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: 1539

DV-MS-0010 (8260/8260) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 1944 - 2307

Line Batch: 418481

Line	Sample Name/Misc Info
1) Sample	100 MS9_1290 BFB BFB
2) Sample	100 MS9_1291 BFB BFB
3) Sample	100 MS9_1292 BFB BFB
4) Sample	10 MS9_1293 8260 BLK
5) Sample	11 MS9_1294 8260 CCV M
6) Sample	12 MS9_1295 8260 CCV S
7) Sample	13 MS9_1296 8260 STD2
8) Sample	14 MS9_1297 8260 STD5
9) Sample	15 MS9_1298 8260 STD10
10) Sample	16 MS9_1299 8260 STD30
11) Sample	17 MS9_1300 8260 STD60
12) Sample	18 MS9_1301 8260 ICV

6/13/18

*[Signature]*

SS ICAV

RSN

6/13/18







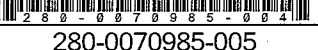

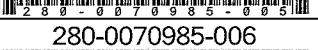
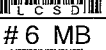
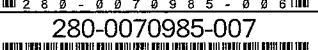
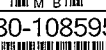

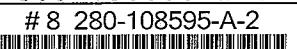












ICV Line 15







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 061318pm  
 Instrument Name: VMS\_MS9  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180613-70985.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00095

Worklist Number: 70985  
 Chrom Method: AQ\_VMSMS9\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070985-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0070985-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00073	CCV		voaWater	20.00	mL	1.000
280-0070985-003 	# 3 CCV 	MV-Supp A_00029 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0070985-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCS		voaWater	20.00	mL	1.000
280-0070985-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCSD		voaWater	20.00	mL	1.000
280-0070985-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0070985-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0070985-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0070985-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0070985-010 	#10 STD2 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	3	voaWater	20.00	mL	1.000
280-0070985-011 	#11 STD5 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	4	voaWater	20.00	mL	1.000
280-0070985-012 	#12 STD10 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	5	voaWater	20.00	mL	1.000
280-0070985-013 	#13 STD30 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	6	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070985-014 	#14 STD60 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	7	voaWater	20.00	mL	1.000
280-0070985-015 	#15 ICV 	MV-568718-D_00014 MV-ARCH SS A_00095	ICV		voaWater	20.00	mL	1.000
280-0070985-016 	#16 580-77744-E-6 		Client		voaWater	20.00	mL	10.00
280-0070985-017 	#17 280-110411-A-8 		Client		voaWater	20.00	mL	20.00
280-0070985-018 	#18 280-110411-A-8 		Client		voaWater	20.00	mL	200.0
280-0070985-019 	#19 280-110411-A-9 		Client		voaWater	20.00	mL	1.000
280-0070985-020 	#20 280-110411-A-10 		Client		voaWater	20.00	mL	1.000
280-0070985-021 	#21 280-110411-A-11 		Client		voaWater	20.00	mL	1.000
280-0070985-022 	#22 280-110411-A-12 		Client		voaWater	20.00	mL	1.000
280-0070985-023 	#23 280-110411-A-12 		Client		voaWater	20.00	mL	4.000
280-0070985-024 	#24 280-110411-A-13 		Client		voaWater	20.00	mL	1.000
280-0070985-025 	#25 280-110411-A-14 		Client		voaWater	20.00	mL	1.000
280-0070985-026 	#26 280-110411-A-14 MS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	MS		voaWater	20.00	mL	1.000
280-0070985-027 	#27 280-110411-A-14 MSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	MSD		voaWater	20.00	mL	1.000
280-0070985-028 	#28 280-110411-A-15 		Client		voaWater	20.00	mL	1.000
280-0070985-029 	#29 280-110411-B-16 		Client		voaWater	20.00	mL	1.000
280-0070985-030 	#30 280-110411-B-17 		Client		voaWater	20.00	mL	40.00
280-0070985-031 	#31 280-110411-B-17 		Client		voaWater	20.00	mL	400.0



Sequence Name: C:\HPCHEM\1\SEQUENCE\062118am.S

Comment:

Operator: wickhamt

Data Path: C:\HPCHEM\1\DATA\062118am\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument: H

DV-MS-0010 (82605/624) (Circle)

Purge Volume: (20m) 15mL/5g

Tune Time: <sup>6-23-18</sup> 08:20-TW <sup>(Circle)</sup> 08:34-14:50

Ums Batch: <sup>6-23-18</sup> 418546 419493  
TW

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1 Sample	100	H7633	BFB	bfb- <sup>6-23-18 TW</sup> 08:20-08:31
2 Sample	1	H7634	8260	blank
3 Sample	2	H7635	8260	blank
4 Sample	3	H7636	8260	std003
5 Sample	4	H7637	8260	std01
6 Sample	5	H7638	8260	std02
7 Sample	6	H7639	8260	std05
8 Sample	7	H7640	8260	icis
9 Sample	8	H7641	8260	std30
10 Sample	9	H7642	8260	std60
11 Sample	10	H7643	8260	blank
12 Sample	11	H7644	8260	icv
13 Sample	12	H7645	8260	blank
14 Sample	13	H7646	8260	280-111106-a-1 mdlv
15 Sample	14	H7647	8260	280-111106-a-2 mdlv
16 Sample	15	H7648	8260	280-111106-a-3 mdlv
17 Sample	16	H7649	8260	280-111106-a-4 mdlv
18 Sample	17	H7650	8260	280-111106-a-5 mdlv /4:50
19 Sample	18	H7651	8260	primer

MAIN/GAS/2-CLEVE/SURR ICAL

calib ID: 32767

WL: 71209

ICIS/ICV: 14/17

good for Q4/Q5 except:

acrolein ~22.8%

isobutyl alc ~22.3%

no ICAL for 2-cleve

1st level: TW 6-23-18

2nd level:  6-23-18















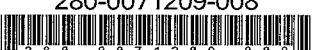

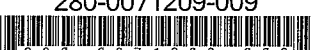







TestAmerica Laboratories  
Worklist Report














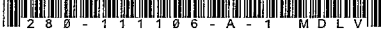
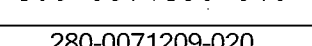
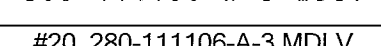






Worklist Name: 062118am  
 Instrument Name: VMS\_H  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_H\20180621-71209.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_H  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00096

Worklist Number: 71209  
 Chrom Method: AQ\_VMSH\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.860, Units: uL

Page 420 of 655

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071209-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071209-002 	# 2 ccv 	MV-568718-D_00014 MV-2cleve+AVA_00036 MV-Main A_00036 MV-Gas/Ket A_00074	CCV		voaWater	20.00	mL	1.000
280-0071209-003 	# 3 ccv 	MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0071209-004 	# 4 lcs 	MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043 MV-Main B_00021	LCS		voaWater	20.00	mL	1.000
280-0071209-005 	# 5 lcsd 	MV-Main B_00021 MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043	LCSD		voaWater	20.00	mL	1.000
280-0071209-006 	# 6 mb 		MB		voaWater	20.00	mL	1.000
280-0071209-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071209-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071209-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071209-010 	#10 std003 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	1	voaWater	20.00	mL	1.000
280-0071209-011 	#11 std01 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	2	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071209-012 	#12 std02 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	3	voaWater	20.00	mL	1.000
280-0071209-013 	#13 std05 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	4	voaWater	20.00	mL	1.000
280-0071209-014 	#14 icis 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	ICIS	5	voaWater	20.00	mL	1.000
280-0071209-015 	#15 std30 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	6	voaWater	20.00	mL	1.000
280-0071209-016 	#16 std60 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	7	voaWater	20.00	mL	1.000
280-0071209-017 	#17 icv 	MV-568718-D_00014 MV-ARCH SS A_00096 MV-Main B_00021 MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043	ICV		voaWater	20.00	mL	1.000
280-0071209-018 	#18 280-111106-A-1 MDLV 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071209-019 	#19 280-111106-A-2 MDLV 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071209-020 	#20 280-111106-A-3 MDLV 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071209-021 	#21 280-111106-A-4 MDLV 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071209-022 	#22 280-111106-A-5 MDLV 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 408278 Batch Start Date: 03/19/18 06:37 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-ARCH SS A 00092	MV-BFB 00025	MV-Supp A 00029
BFB 280-408278/1		8260B		1 uL	1 uL			1 uL	
STD 280-408278/18 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD 280-408278/19 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD 280-408278/20 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-408278/21		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD 280-408278/22 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD 280-408278/23 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-408278/24		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-408278/1		8260B							
STD 280-408278/18 IC		8260B							
STD 280-408278/19 IC		8260B							
STD 280-408278/20 IC		8260B							
ICIS 280-408278/21		8260B							
STD 280-408278/22 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 408278 Batch Start Date: 03/19/18 06:37 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
STD 280-408278/23 IC		8260B							
ICV 280-408278/24		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 415628 Batch Start Date: 05/21/18 07:24 Batch Analyst: Moan, Matthew RBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00096	MV-BFB 00025	MV-Supp A 00029
BFB 280-415628/1		8260B		1 uL	1 uL			1 uL	
IC 280-415628/10		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
IC 280-415628/11		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
IC 280-415628/12		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-415628/13		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
IC 280-415628/14		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
IC 280-415628/15		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-415628/16		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-415628/1		8260B							
IC 280-415628/10		8260B							
IC 280-415628/11		8260B							
IC 280-415628/12		8260B							
ICIS 280-415628/13		8260B							
IC 280-415628/14		8260B							
IC 280-415628/15		8260B							
ICV 280-415628/16		8260B		5 uL					

Batch Notes	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 415628 Batch Start Date: 05/21/18 07:24 Batch Analyst: Moan, Matthew RBatch Method: 8260B Batch End Date: \_\_\_\_\_

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 416844 Batch Start Date: 05/30/18 19:18 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00035	MV-568718-D 00014	MV-ARCH SS A 00095	MV-BFB 00026
BFB 280-416844/1		8260B		1 uL	1 uL				1 uL
STD60 280-416844/10 IC		8260B		20 mL	20 mL	30 uL	1 uL	4.8 uL	
STD30 280-416844/11 IC		8260B		20 mL	20 mL	15 uL	1 uL	2.4 uL	
ICIS 280-416844/12		8260B		20 mL	20 mL	5 uL	1 uL	0.8 uL	
STD5 280-416844/13 IC		8260B		20 mL	20 mL	2.5 uL	1 uL	0.4 uL	
STD2 280-416844/14 IC		8260B		20 mL	20 mL	1 uL	1 uL	0.16 uL	
STD1 280-416844/15 IC		8260B		20 mL	20 mL	0.5 uL	1 uL	0.08 uL	
STD03 280-416844/16 IC		8260B		20 mL	20 mL	0.15 uL	1 uL	0.024 uL	
ICV 280-416844/17		8260B		20 mL	20 mL		1 uL	0.8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
BFB 280-416844/1		8260B							
STD60 280-416844/10 IC		8260B		30 uL		30 uL			
STD30 280-416844/11 IC		8260B		15 uL		15 uL			
ICIS 280-416844/12		8260B		5 uL		5 uL			
STD5 280-416844/13 IC		8260B		2.5 uL		2.5 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 416844 Batch Start Date: 05/30/18 19:18 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
STD2 280-416844/14 IC		8260B		1 uL		1 uL			
STD1 280-416844/15 IC		8260B		0.5 uL		0.5 uL			
STD03 280-416844/16 IC		8260B		0.15 uL		0.15 uL			
ICV 280-416844/17		8260B			5 uL		5 uL	5 uL	

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418481 Batch Start Date: 06/13/18 19:44 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00095	MV-BFB 00026	
BFB 280-418481/1		8260B		1 uL	1 uL			1 uL	
STD2 280-418481/10 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		
STD5 280-418481/11 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		
STD10 280-418481/12 IC		8260B		20 mL	20 mL	1 uL	0.8 uL		
STD30 280-418481/13 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		
STD60 280-418481/14 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		
ICV 280-418481/15		8260B		20 mL	20 mL	1 uL	0.8 uL		

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419443 Batch Start Date: 06/21/18 08:34 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00096	MV-BFB 00026
BFB 280-419443/1		8260B		1 uL	1 uL				1 uL
STD003 280-419443/10 IC		8260B		20 mL	20 mL	0.15 uL	1 uL	0.04 uL	
STD01 280-419443/11 IC		8260B		20 mL	20 mL	0.5 uL	1 uL	0.08 uL	
STD02 280-419443/12 IC		8260B		20 mL	20 mL	1 uL	1 uL	0.16 uL	
STD05 280-419443/13 IC		8260B		20 mL	20 mL	2.5 uL	1 uL	0.4 uL	
ICIS 280-419443/14		8260B		20 mL	20 mL	5 uL	1 uL	0.8 uL	
STD30 280-419443/15 IC		8260B		20 mL	20 mL	15 uL	1 uL	2.4 uL	
STD60 280-419443/16 IC		8260B		20 mL	20 mL	30 uL	1 uL	4.8 uL	
ICV 280-419443/17		8260B		20 mL	20 mL		1 uL	0.8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00074	MV-Gas/Ket B 00041	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
BFB 280-419443/1		8260B							
STD003 280-419443/10 IC		8260B		0.15 uL		0.15 uL			
STD01 280-419443/11 IC		8260B		0.5 uL		0.5 uL			
STD02 280-419443/12 IC		8260B		1 uL		1 uL			
STD05 280-419443/13 IC		8260B		2.5 uL		2.5 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419443 Batch Start Date: 06/21/18 08:34 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00074	MV-Gas/Ket B 00041	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
ICIS 280-419443/14		8260B		5 uL		5 uL			
STD30 280-419443/15 IC		8260B		15 uL		15 uL			
STD60 280-419443/16 IC		8260B		30 uL		30 uL			
ICV 280-419443/17		8260B			5 uL		5 uL	5 uL	

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419807 Batch Start Date: 06/25/18 08:50 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026	MV-Supp A 00029
BFB 280-419807/1		8260B		1 uL	1 uL			1 uL	
STD010 280-419807/19 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD020 280-419807/20 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD050 280-419807/21 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-419807/22		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD30 280-419807/23 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD60 280-419807/24 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-419807/25		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-419807/1		8260B							
STD010 280-419807/19 IC		8260B							
STD020 280-419807/20 IC		8260B							
STD050 280-419807/21 IC		8260B							
ICIS 280-419807/22		8260B							
STD30 280-419807/23 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419807 Batch Start Date: 06/25/18 08:50 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
STD60 280-419807/24 IC		8260B							
ICV 280-419807/25		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420036 Batch Start Date: 06/26/18 08:15 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00096	MV-BFB 00026
BFB 280-420036/1		8260B		1 uL	1 uL				1 uL
CCV 280-420036/2		8260B		20 mL	20 mL	5 uL	1 uL		
CCV 280-420036/3		8260B		20 mL	20 mL		1 uL	0.9 uL	
LCS 280-420036/4		8260B		20 mL	20 mL		1 uL	0.9 uL	
MB 280-420036/6		8260B		20 mL	20 mL		1 uL	0.9 uL	
280-110865-C-1	AFDV-126	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-C-1	AFDV-126	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-C-1 MS	AFDV-126	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-C-1 MSD	AFDV-126	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-E-2	AFDV-127	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-3	AFDV-128	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-3	AFDV-128	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-F-4	AFDV-129	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-F-5	AFDV-118	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-E-6	AFDV-124	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-A-7	AFDV-146	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-F-8	AFDV-131	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-F-8	AFDV-131	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-E-9	AFDV-134	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-E-9	AFDV-134	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-F-10	AFDV-132	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-F-10	AFDV-132	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-11	AFDV-133	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-11	AFDV-133	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-12	AFDV-108	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-13	AFDV-116	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-B-14	AFDV-147	8260B	T	20 mL	20 mL		1 uL	0.9 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420036 Batch Start Date: 06/26/18 08:15 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00096	MV-BFB 00026
280-110865-F-15	AFDV-125	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-16	AFDV-106	8260B	T	20 mL	20 mL		1 uL	0.9 uL	
280-110865-D-16	AFDV-106	8260B	T	20 mL	20 mL		1 uL	0.9 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00074	MV-Gas/Ket B 00041	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00029
BFB 280-420036/1		8260B							
CCV 280-420036/2		8260B		5 uL		5 uL			
CCV 280-420036/3		8260B							5 uL
LCS 280-420036/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-420036/6		8260B							
280-110865-C-1	AFDV-126	8260B	T						
280-110865-C-1	AFDV-126	8260B	T						
280-110865-C-1 MS	AFDV-126	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110865-C-1 MSD	AFDV-126	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110865-E-2	AFDV-127	8260B	T						
280-110865-D-3	AFDV-128	8260B	T						
280-110865-D-3	AFDV-128	8260B	T						
280-110865-F-4	AFDV-129	8260B	T						
280-110865-F-5	AFDV-118	8260B	T						
280-110865-E-6	AFDV-124	8260B	T						
280-110865-A-7	AFDV-146	8260B	T						
280-110865-F-8	AFDV-131	8260B	T						
280-110865-F-8	AFDV-131	8260B	T						
280-110865-E-9	AFDV-134	8260B	T						
280-110865-E-9	AFDV-134	8260B	T						
280-110865-F-10	AFDV-132	8260B	T						
280-110865-F-10	AFDV-132	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420036 Batch Start Date: 06/26/18 08:15 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00074	MV-Gas/Ket B 00041	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00029
280-110865-D-11	AFDV-133	8260B	T						
280-110865-D-11	AFDV-133	8260B	T						
280-110865-D-12	AFDV-108	8260B	T						
280-110865-D-13	AFDV-116	8260B	T						
280-110865-B-14	AFDV-147	8260B	T						
280-110865-F-15	AFDV-125	8260B	T						
280-110865-D-16	AFDV-106	8260B	T						
280-110865-D-16	AFDV-106	8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420110 Batch Start Date: 06/26/18 12:51 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-BFB 00026	MV-Gas/Ket A 00070
BFB 280-420110/1		8260B		1 uL	1 uL			1 uL	
STD003 280-420110/12 IC		8260B		20 mL	20 mL	0.15 uL	1 uL		0.15 uL
STD010 280-420110/13 IC		8260B		20 mL	20 mL	0.5 uL	1 uL		0.5 uL
STD020 280-420110/14 IC		8260B		20 mL	20 mL	1 uL	1 uL		1 uL
STD050 280-420110/15 IC		8260B		20 mL	20 mL	2.5 uL	1 uL		2.5 uL
STD10 280-420110/16 IC		8260B		20 mL	20 mL	5 uL	1 uL		5 uL
STD30 280-420110/17 IC		8260B		20 mL	20 mL	15 uL	1 uL		15 uL
STD60 280-420110/18 IC		8260B		20 mL	20 mL	30 uL	1 uL		30 uL
ICV 280-420110/19		8260B		20 mL	20 mL		1 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket B 00040	MV-Main A 00036	MV-SS 2-Cleve 00043			
BFB 280-420110/1		8260B							
STD003 280-420110/12 IC		8260B			0.15 uL				
STD010 280-420110/13 IC		8260B			0.5 uL				
STD020 280-420110/14 IC		8260B			1 uL				
STD050 280-420110/15 IC		8260B			2.5 uL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420110 Batch Start Date: 06/26/18 12:51 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket B 00040	MV-Main A 00036	MV-SS 2-Cleve 00043			
STD10 280-420110/16 IC		8260B			5 uL				
STD30 280-420110/17 IC		8260B			15 uL				
STD60 280-420110/18 IC		8260B			30 uL				
ICV 280-420110/19		8260B		5 uL		5 uL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420653 Batch Start Date: 06/29/18 19:40 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00099	MV-BFB 00026
BFB 280-420653/1		8260B		1 uL	1 uL				1 uL
CCV 280-420653/2		8260B		20 mL	20 mL	5 uL	1 uL	0.76 uL	
CCV 280-420653/3		8260B		20 mL	20 mL		1 uL		
LCS 280-420653/4		8260B		20 mL	20 mL		1 uL	0.76 uL	
MB 280-420653/6		8260B		20 mL	20 mL		1 uL	0.76 uL	
280-110720-D-1 MS	B3J2C9	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110720-D-1 MSD	B3J2C9	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110865-E-17	AFDV-119	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110865-E-17	AFDV-119	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110865-E-18	AFDV-120	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110865-E-18	AFDV-120	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110865-D-19	AFDV-110	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110865-D-19	AFDV-110	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-110865-B-20	AFDV-148	8260B	T	20 mL	20 mL		1 uL	0.76 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00029
BFB 280-420653/1		8260B							
CCV 280-420653/2		8260B		5 uL		5 uL			
CCV 280-420653/3		8260B							5 uL
LCS 280-420653/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-420653/6		8260B							
280-110720-D-1 MS	B3J2C9	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110720-D-1 MSD	B3J2C9	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110865-E-17	AFDV-119	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420653 Batch Start Date: 06/29/18 19:40 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00029
280-110865-E-17	AFDV-119	8260B	T						
280-110865-E-18	AFDV-120	8260B	T						
280-110865-E-18	AFDV-120	8260B	T						
280-110865-D-19	AFDV-110	8260B	T						
280-110865-D-19	AFDV-110	8260B	T						
280-110865-B-20	AFDV-148	8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 421081 Batch Start Date: 07/04/18 09:24 Batch Analyst: Meier, Greg PBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-421081/1		8260B		1 uL	1 uL				1 uL
CCV 280-421081/2		8260B		20 mL	20 mL	5 uL	1 uL	0.88 uL	
CCV 280-421081/3		8260B		20 mL	20 mL		1 uL		
LCS 280-421081/4		8260B		20 mL	20 mL		1 uL	0.88 uL	
LCS 280-421081/5		8260B		20 mL	20 mL		1 uL	0.88 uL	
MB 280-421081/6		8260B		20 mL	20 mL		1 uL	0.88 uL	
280-111289-C-6 MS	WPB-06-062118MS	8260B	T	20 mL	20 mL		1 uL	0.88 uL	
280-111289-C-6 MSD	WPB-06-062118MSD	8260B	T	20 mL	20 mL		1 uL	0.88 uL	
280-110865-D-21	AFDV-145	8260B	T	20 mL	20 mL		1 uL	0.88 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00075	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00021	MV-SS 2-Cleve 00045	MV-Supp A 00031
BFB 280-421081/1		8260B							
CCV 280-421081/2		8260B		5 uL		5 uL			
CCV 280-421081/3		8260B							5 uL
LCS 280-421081/4		8260B			2.5 uL		2.5 uL	2.5 uL	
LCS 280-421081/5		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-421081/6		8260B							
280-111289-C-6 MS	WPB-06-062118MS	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-111289-C-6 MSD	WPB-06-062118MSD	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110865-D-21	AFDV-145	8260B	T						

Batch Notes	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 421081 Batch Start Date: 07/04/18 09:24 Batch Analyst: Meier, Greg PBatch Method: 8260B Batch End Date: \_\_\_\_\_

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



# Method RSK-175

---

Dissolved Gases (GC) by Method  
RSK\_175



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 06230005.D  
Lab ID: LCS 280-419713/5 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	146	130	89	75-125	
Ethene	255	250	98	75-125	
Ethane	274	268	98	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 06270005.D  
Lab ID: LCS 280-420253/5 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	146	141	96	75-125	
Ethene	255	261	102	75-125	
Ethane	274	289	106	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06230006.D  
 Lab ID: LCSD 280-419713/6 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	146	141	97	8	20	75-125	
Ethene	255	266	104	6	20	75-125	
Ethane	274	290	106	8	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06270006.D  
 Lab ID: LCSD 280-420253/6 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	146	141	96	0	20	75-125	
Ethene	255	262	102	0	20	75-125	
Ethane	274	291	106	1	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 06230064.D  
Lab ID: 280-110865-12 MS Client ID: AFDV-108 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	438	12000	17000	1177	52-145	4
Ethene	766	ND	823	107	75-131	
Ethane	821	8.3 J	926	112	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 06270009.D  
Lab ID: 280-111018-H-5 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	146	41	193	104	52-145	
Ethene	255	ND	276	108	75-131	
Ethane	274	ND	313	114	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06230065.D  
 Lab ID: 280-110865-12 MSD Client ID: AFDV-108 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	438	20400	1959	18	20	52-145	4
Ethene	766	855	112	4	20	75-131	
Ethane	821	996	120	7	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06270010.D  
 Lab ID: 280-111018-H-5 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	146	169	87	13	20	52-145	
Ethene	255	249	97	10	20	75-131	
Ethane	274	275	100	13	20	75-125	

# Column to be used to flag recovery and RPD values



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: MB 280-419713/4  
Matrix: Water Date Extracted: \_\_\_\_\_  
Lab File ID: (1) 06230004.D Lab File ID: (2) 06230004.D  
Date Analyzed: (1) 06/23/2018 10:11 Date Analyzed: (2) 06/23/2018 10:11  
Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
GC Column: (1) HP-Plot Q ID: 0.53(mm) GC Column: (2) Rt-Alumina K ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-419713/5	06/23/2018 10:24	06/23/2018 10:24
	LCSD 280-419713/6	06/23/2018 10:38	06/23/2018 10:38
AFDV-129	280-110865-4	06/23/2018 11:47	06/23/2018 11:47
AFDV-118	280-110865-5	06/23/2018 12:01	06/23/2018 12:01
AFDV-124	280-110865-6	06/23/2018 12:15	06/23/2018 12:15
AFDV-131	280-110865-8	06/23/2018 12:29	
AFDV-134	280-110865-9	06/23/2018 12:43	
AFDV-132	280-110865-10	06/23/2018 12:57	
AFDV-133	280-110865-11	06/23/2018 13:11	
AFDV-116	280-110865-13		06/23/2018 13:24
AFDV-125	280-110865-15	06/23/2018 13:38	06/23/2018 13:38
AFDV-108	280-110865-12	06/23/2018 13:52	06/23/2018 13:52
AFDV-108 DU	280-110865-12 DU	06/23/2018 14:06	06/23/2018 14:06
AFDV-108 MS	280-110865-12 MS	06/23/2018 14:20	06/23/2018 14:20
AFDV-108 MSD	280-110865-12 MSD	06/23/2018 14:34	06/23/2018 14:34
AFDV-106	280-110865-16	06/23/2018 16:25	06/23/2018 16:25
AFDV-119	280-110865-17	06/23/2018 16:39	
AFDV-120	280-110865-18	06/23/2018 16:53	
AFDV-110	280-110865-19	06/23/2018 17:07	06/23/2018 17:07
AFDV-145	280-110865-21	06/23/2018 17:21	06/23/2018 17:21



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 280-420253/4  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 06270004.D Lab File ID: (2) 06270004.D  
 Date Analyzed: (1) 06/27/2018 14:00 Date Analyzed: (2) 06/27/2018 14:00  
 Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
 GC Column: (1) HP-Plot Q ID: 0.53(mm) GC Column: (2) Rt-Alumina K ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-420253/5	06/27/2018 14:15	06/27/2018 14:15
	LCSD 280-420253/6	06/27/2018 14:29	06/27/2018 14:29
	280-111018-G-5 DU	06/27/2018 14:58	06/27/2018 14:58
	280-111018-H-5 MS	06/27/2018 15:12	06/27/2018 15:12
	280-111018-H-5 MSD	06/27/2018 15:26	06/27/2018 15:26
AFDV-131 DL	280-110865-8 DL	06/27/2018 15:55	06/27/2018 15:55
AFDV-134 DL	280-110865-9 DL	06/27/2018 16:09	06/27/2018 16:09
AFDV-132 DL	280-110865-10 DL	06/27/2018 16:23	06/27/2018 16:23
AFDV-133 DL	280-110865-11 DL	06/27/2018 16:37	06/27/2018 16:37
AFDV-116 DL	280-110865-13 DL	06/27/2018 16:52	06/27/2018 16:52
AFDV-119 DL	280-110865-17 DL	06/27/2018 17:06	06/27/2018 17:06
AFDV-120 DL	280-110865-18 DL	06/27/2018 17:20	06/27/2018 17:20



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-129 Lab Sample ID: 280-110865-4  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 11:47 Date Analyzed (2): 06/23/2018 11:47  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	610		3.2
	2		1.26	1.22	1.30	630		
Ethane	1		2.86	2.82	2.92	1.9		62.5
	2		1.57	1.49	1.59	1.0		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-118 Lab Sample ID: 280-110865-5  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 12:01 Date Analyzed (2): 06/23/2018 12:01  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.65	1.73	13000		4.1
	2		1.25	1.22	1.30	13000		
Ethane	1		2.86	2.82	2.92	400		3.9
	2		1.51	1.49	1.59	410		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-124 Lab Sample ID: 280-110865-6  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 12:15 Date Analyzed (2): 06/23/2018 12:15  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	2200		2.8
	2		1.26	1.22	1.30	2200		
Ethane	1		2.86	2.82	2.92	14		4.4
	2		1.51	1.49	1.59	14		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-131 DL Lab Sample ID: 280-110865-8 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 15:55 Date Analyzed (2): 06/27/2018 15:55  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	1400		1.3
	2		1.25	1.22	1.30	1400		
Ethene	1		2.45	2.43	2.53	5800		1.0
	2		1.82	1.81	1.91	5800		
Ethane	1		2.84	2.80	2.90	680		0.6
	2		1.52	1.49	1.59	690		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-134 DL Lab Sample ID: 280-110865-9 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 16:09 Date Analyzed (2): 06/27/2018 16:09  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.64	1.72	5600		0.4
	2		1.25	1.22	1.30	5600		
Ethene	1		2.46	2.43	2.53	3100		0.2
	2		1.84	1.81	1.91	3200		
Ethane	1		2.84	2.80	2.90	5000		0.1
	2		1.53	1.49	1.59	5000		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-132 DL Lab Sample ID: 280-110865-10 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 16:23 Date Analyzed (2): 06/27/2018 16:23  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.65	1.64	1.72	4900		0.5
	2		1.24	1.22	1.30	5000		
Ethene	1		2.46	2.43	2.53	13000		0.1
	2		1.83	1.81	1.91	13000		
Ethane	1		2.84	2.80	2.90	2400		0.0
	2		1.52	1.49	1.59	2400		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-133 DL Lab Sample ID: 280-110865-11 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 16:37 Date Analyzed (2): 06/27/2018 16:37  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	2200		0.2
	2		1.25	1.22	1.30	2200		
Ethene	1		2.46	2.43	2.53	6400		0.1
	2		1.84	1.81	1.91	6400		
Ethane	1		2.84	2.80	2.90	1200		0.0
	2		1.53	1.49	1.59	1200		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-108 Lab Sample ID: 280-110865-12  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 13:52 Date Analyzed (2): 06/23/2018 13:52  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	12000		1.6
	2		1.25	1.22	1.30	12000		
Ethane	1		2.86	2.82	2.92	8.3		62.5
	2		1.57	1.49	1.59	4.3		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-108 MS Lab Sample ID: 280-110865-12 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 14:20 Date Analyzed (2): 06/23/2018 14:20  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	17000		1.7
	2		1.25	1.22	1.30	17300		
Ethene	1		2.47	2.44	2.54	823		1.8
	2		1.83	1.82	1.92	837		
Ethane	1		2.85	2.82	2.92	926		1.1
	2		1.52	1.49	1.59	936		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-108 MSD Lab Sample ID: 280-110865-12 MSD

Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J

Date Analyzed (1): 06/23/2018 14:34 Date Analyzed (2): 06/23/2018 14:34

GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	20400		1.7
	2		1.25	1.22	1.30	20800		
Ethene	1		2.47	2.44	2.54	855		1.8
	2		1.83	1.82	1.92	870		
Ethane	1		2.85	2.82	2.92	996		8.6
	2		1.52	1.49	1.59	913		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-108 DU Lab Sample ID: 280-110865-12 DU  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 14:06 Date Analyzed (2): 06/23/2018 14:06  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	12900		1.5
	2		1.26	1.22	1.30	13100		
Ethane	1		2.86	2.82	2.92	8.80		65.2
	2		1.57	1.49	1.59	4.48		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-116 DL Lab Sample ID: 280-110865-13 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 16:52 Date Analyzed (2): 06/27/2018 16:52  
 GC Column (1): HP-Plot Q ID: 0.53 (mm) GC Column (2): Rt-Alumina KC ID: 0.53 (mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	8700		0.9
	2		1.25	1.22	1.30	8800		
Ethane	1		2.84	2.80	2.90	8.8		0.8
	2		1.49	1.49	1.59	8.7		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-125 Lab Sample ID: 280-110865-15  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 13:38 Date Analyzed (2): 06/23/2018 13:38  
 GC Column (1): HP-Plot Q ID: 0.53 (mm) GC Column (2): Rt-Alumina KC ID: 0.53 (mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.65	1.73	0.61		0.5
	2		1.26	1.22	1.30	0.62		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-106 Lab Sample ID: 280-110865-16  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 16:25 Date Analyzed (2): 06/23/2018 16:25  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	99		3.3
	2		1.25	1.22	1.30	100		
Ethane	1		2.85	2.82	2.92	28		3.3
	2		1.51	1.49	1.59	29		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-119 DL Lab Sample ID: 280-110865-17 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 17:06 Date Analyzed (2): 06/27/2018 17:06  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	190		1.3
	2		1.24	1.22	1.30	190		
Ethene	1		2.46	2.43	2.53	7600		0.5
	2		1.84	1.81	1.91	7700		
Ethane	1		2.84	2.80	2.90	38		5.0
	2		1.52	1.49	1.59	40		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-120 DL Lab Sample ID: 280-110865-18 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 17:20 Date Analyzed (2): 06/27/2018 17:20  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	210		1.1
	2		1.24	1.22	1.30	220		
Ethene	1		2.46	2.43	2.53	7700		0.5
	2		1.84	1.81	1.91	7800		
Ethane	1		2.84	2.80	2.90	39		3.3
	2		1.52	1.49	1.59	40		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-110 Lab Sample ID: 280-110865-19  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 17:07 Date Analyzed (2): 06/23/2018 17:07  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	170		2.7
	2		1.25	1.22	1.30	170		
Ethene	1		2.47	2.44	2.54	95		2.3
	2		1.82	1.82	1.92	97		
Ethane	1		2.86	2.82	2.92	3.0		3.6
	2		1.51	1.49	1.59	3.1		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-145 Lab Sample ID: 280-110865-21  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 17:21 Date Analyzed (2): 06/23/2018 17:21  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.65	1.73	0.63		9.3
	2		1.26	1.22	1.30	0.58		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-419713/4  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 10:11 Date Analyzed (2): 06/23/2018 10:11  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.65	1.73	0.596		8.3
	2		1.27	1.22	1.30	0.549		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-419713/5  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 10:24 Date Analyzed (2): 06/23/2018 10:24  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.65	1.73	130		0.5
	2		1.26	1.22	1.30	130		
Ethene	1		2.49	2.44	2.54	250		0.9
	2		1.85	1.82	1.92	253		
Ethane	1		2.87	2.82	2.92	268		0.5
	2		1.54	1.49	1.59	269		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-419713/6  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/23/2018 10:38 Date Analyzed (2): 06/23/2018 10:38  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.65	1.73	141		0.4
	2		1.26	1.22	1.30	142		
Ethene	1		2.49	2.44	2.54	266		0.8
	2		1.86	1.82	1.92	268		
Ethane	1		2.86	2.82	2.92	290		0.4
	2		1.54	1.49	1.59	291		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420253/4  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 14:00 Date Analyzed (2): 06/27/2018 14:00  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.65	1.64	1.72	0.626		2.6
	2		1.26	1.22	1.30	0.610		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420253/5  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 14:15 Date Analyzed (2): 06/27/2018 14:15  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	141		0.1
	2		1.25	1.22	1.30	141		
Ethene	1		2.47	2.43	2.53	261		0.5
	2		1.85	1.81	1.91	262		
Ethane	1		2.84	2.80	2.90	289		0.1
	2		1.53	1.49	1.59	289		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-420253/6  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 14:29 Date Analyzed (2): 06/27/2018 14:29  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.64	1.72	141		0.1
	2		1.25	1.22	1.30	141		
Ethene	1		2.47	2.43	2.53	262		0.5
	2		1.85	1.81	1.91	263		
Ethane	1		2.85	2.80	2.90	291		0.1
	2		1.53	1.49	1.59	291		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111018-G-5 DU  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 14:58 Date Analyzed (2): 06/27/2018 14:58  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	38.9		2.0
	2		1.25	1.22	1.30	39.7		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111018-H-5 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 15:12 Date Analyzed (2): 06/27/2018 15:12  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	193		2.4
	2		1.24	1.22	1.30	198		
Ethene	1		2.46	2.43	2.53	276		2.5
	2		1.81	1.81	1.91	283		
Ethane	1		2.84	2.80	2.90	313		2.2
	2		1.50	1.49	1.59	320		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111018-H-5 MSD  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/27/2018 15:26 Date Analyzed (2): 06/27/2018 15:26  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	169		2.5
	2		1.24	1.22	1.30	173		
Ethene	1		2.46	2.43	2.53	249		2.6
	2		1.81	1.81	1.91	255		
Ethane	1		2.84	2.80	2.90	275		2.2
	2		1.52	1.49	1.59	281		



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-129 Lab Sample ID: 280-110865-4  
Matrix: Water Lab File ID: 06230011.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 11:35  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 11:47  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	610	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	1.9	J	5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-118 Lab Sample ID: 280-110865-5  
Matrix: Water Lab File ID: 06230012.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 11:30  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 12:01  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	13000	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	400		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-124 Lab Sample ID: 280-110865-6  
Matrix: Water Lab File ID: 06230013.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 10:10  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 12:15  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	2200	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	14		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-131 Lab Sample ID: 280-110865-8  
Matrix: Water Lab File ID: 06230014.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 14:50  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 12:29  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	2900	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	1300	E	5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-131 DL Lab Sample ID: 280-110865-8 DL  
Matrix: Water Lab File ID: 06270012.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 14:50  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 15:55  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 3  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	1400	H B	15	0.65
74-85-1	Ethene	5800	H E	15	1.2
74-84-0	Ethane	680	H	15	1.7



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-134 Lab Sample ID: 280-110865-9  
Matrix: Water Lab File ID: 06230015.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:00  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 12:43  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	4800	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-134 DL Lab Sample ID: 280-110865-9 DL  
Matrix: Water Lab File ID: 06270013.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:00  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 16:09  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 36  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	5600	H B	180	7.8
74-85-1	Ethene	3100	H	180	14
74-84-0	Ethane	5000	H	180	21



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-132 Lab Sample ID: 280-110865-10  
Matrix: Water Lab File ID: 06230016.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:10  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 12:57  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	4800	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	2100	E	5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-132 DL Lab Sample ID: 280-110865-10 DL  
Matrix: Water Lab File ID: 06270014.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:10  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 16:23  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 36  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	4900	H B	180	7.8
74-85-1	Ethene	13000	H	180	14
74-84-0	Ethane	2400	H	180	21



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-133 Lab Sample ID: 280-110865-11  
Matrix: Water Lab File ID: 06230017.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:15  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 13:11  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	5000	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	2200	E	5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-133 DL Lab Sample ID: 280-110865-11 DL  
Matrix: Water Lab File ID: 06270015.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:15  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 16:37  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 36  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	2200	H B	180	7.8
74-85-1	Ethene	6400	H	180	14
74-84-0	Ethane	1200	H	180	21



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-108 Lab Sample ID: 280-110865-12  
Matrix: Water Lab File ID: 06230062.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:46  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 13:52  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 3  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	12000	B	15	0.65
74-85-1	Ethene	ND		15	1.2
74-84-0	Ethane	8.3	J	15	1.7



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-116 Lab Sample ID: 280-110865-13  
Matrix: Water Lab File ID: 06230018.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:30  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 13:24  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: Rt-Alumina KCl ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	21000	E B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	4.2	J	5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-116 DL Lab Sample ID: 280-110865-13 DL  
Matrix: Water Lab File ID: 06270016.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:30  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 16:52  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 3  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	8700	H B	15	0.65
74-85-1	Ethene	ND	H	15	1.2
74-84-0	Ethane	8.8	J H	15	1.7



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-125 Lab Sample ID: 280-110865-15  
Matrix: Water Lab File ID: 06230019.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 09:55  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 13:38  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.61	J B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-106 Lab Sample ID: 280-110865-16  
Matrix: Water Lab File ID: 06230027.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 14:34  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 16:25  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	99	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	28		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-119 Lab Sample ID: 280-110865-17  
Matrix: Water Lab File ID: 06230028.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 11:35  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 16:39  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	150	B	5.0	0.22
74-85-1	Ethene	6400	E	5.0	0.40
74-84-0	Ethane	29		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-119 DL Lab Sample ID: 280-110865-17 DL  
Matrix: Water Lab File ID: 06270017.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 11:35  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 17:06  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	190	H B	90	3.9
74-85-1	Ethene	7600	H	90	7.2
74-84-0	Ethane	38	J H	90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-120 Lab Sample ID: 280-110865-18  
Matrix: Water Lab File ID: 06230029.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 11:40  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 16:53  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	200	B	5.0	0.22
74-85-1	Ethene	6800	E	5.0	0.40
74-84-0	Ethane	31		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-120 DL Lab Sample ID: 280-110865-18 DL  
Matrix: Water Lab File ID: 06270018.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 11:40  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 17:20  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	210	H B	90	3.9
74-85-1	Ethene	7700	H	90	7.2
74-84-0	Ethane	39	J H	90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-110 Lab Sample ID: 280-110865-19  
Matrix: Water Lab File ID: 06230030.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 14:20  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 17:07  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	170	B	5.0	0.22
74-85-1	Ethene	95		5.0	0.40
74-84-0	Ethane	3.0	J	5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-145 Lab Sample ID: 280-110865-21  
Matrix: Water Lab File ID: 06230031.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 16:45  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 17:21  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.63	J B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32648

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane		1.251	1.249	1.246	1.251	1.246	1.247	1.244			1.211 - 1.291	1.248
Ethane	1.505	1.527	1.526	1.490	1.522	1.520	1.527	1.523			1.472 - 1.572	1.518
Ethene	1.841	1.836	1.839	1.817	1.841	1.835	1.839	1.835			1.791 - 1.891	1.835
Propane	2.590	2.585	2.586	2.586	2.586	2.581	2.572	2.569			2.526 - 2.646	2.582
Acetylene	4.075	4.074	4.075	4.073	4.065	4.058	4.044	4.047			3.985 - 4.145	4.064
Butane	4.375	4.374	4.375	4.373	4.364	4.353	4.333	4.337			4.284 - 4.444	4.361
isobutylene	5.300	5.300	5.300	5.299	5.290	5.282	5.266	5.270			5.210 - 5.370	5.288



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32648

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	94871	118419 119809	109894 117642	123113 126897	Lin1	-27283.709	122279.919							1.0000		0.9900
Ethane	54734 89791	72413 102067	86019 113919	62644 115010	Lin1	-90569.650	109831.747							0.9930		0.9900
Ethene	44372 75266	60135 84900	70878 93762	59512 92230	Lin1	-64351.025	89964.8945							0.9950		0.9900
Propane	57322 94636	77768 109275	91665 121201	76859 122454	Lin1	-135245.87	117068.598							0.9930		0.9900
Acetylene	15461 28252	22045 31244	25568 34064	20997 33788	Lin1	-22338.432	32908.5151							0.9950		0.9900
Butane	61780 98436	83241 113975	96155 125964	81030 127588	Lin1	-179515.84	121857.749							0.9940		0.9900
isobutylene	43772 68179	57239 77869	66313 85458	54220 85564	Lin1	-112902.75	82529.5081							0.9940		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32648

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Lin1	883449000	108062 42941234	200566 266350636	1781465136	6925875	7374	0.913 365	1.83 2099	14470	73.0
Ethane	Lin1	50562 27936979	123876 77952000	294305 62959111	1714638	12288331	0.924 274	1.71 684	3.42 547	27.4	137
Ethene	Lin1	38238 21677751	95965 59851517	226218 47098556	1519542	9608961	0.862 255	1.60 638	3.19 511	25.5	128
Propane	Lin1	77660 43865241	195112 121631906	459953 98311240	3085276	18994401	1.35 401	2.51 1004	5.02 803	40.1	201
Acetylene	Lin1	12369 7406183	32661 20186957	75759 16018496	497712	3348510	0.800 237	1.48 593	2.96 474	23.7	119
Butane	Lin1	110310 60297724	275238 166601866	635880 134999771	4286824	26038425	1.79 529	3.31 1323	6.61 1058	52.9	265
isobutylene	Lin1	75455 39772095	182721 109120320	423371 87404315	2769315	17411477	1.72 511	3.19 1277	6.38 1022	51.1	255

Curve Type Legend:

Lin1 = Linear 1/conc



## Calibration

/ Methane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

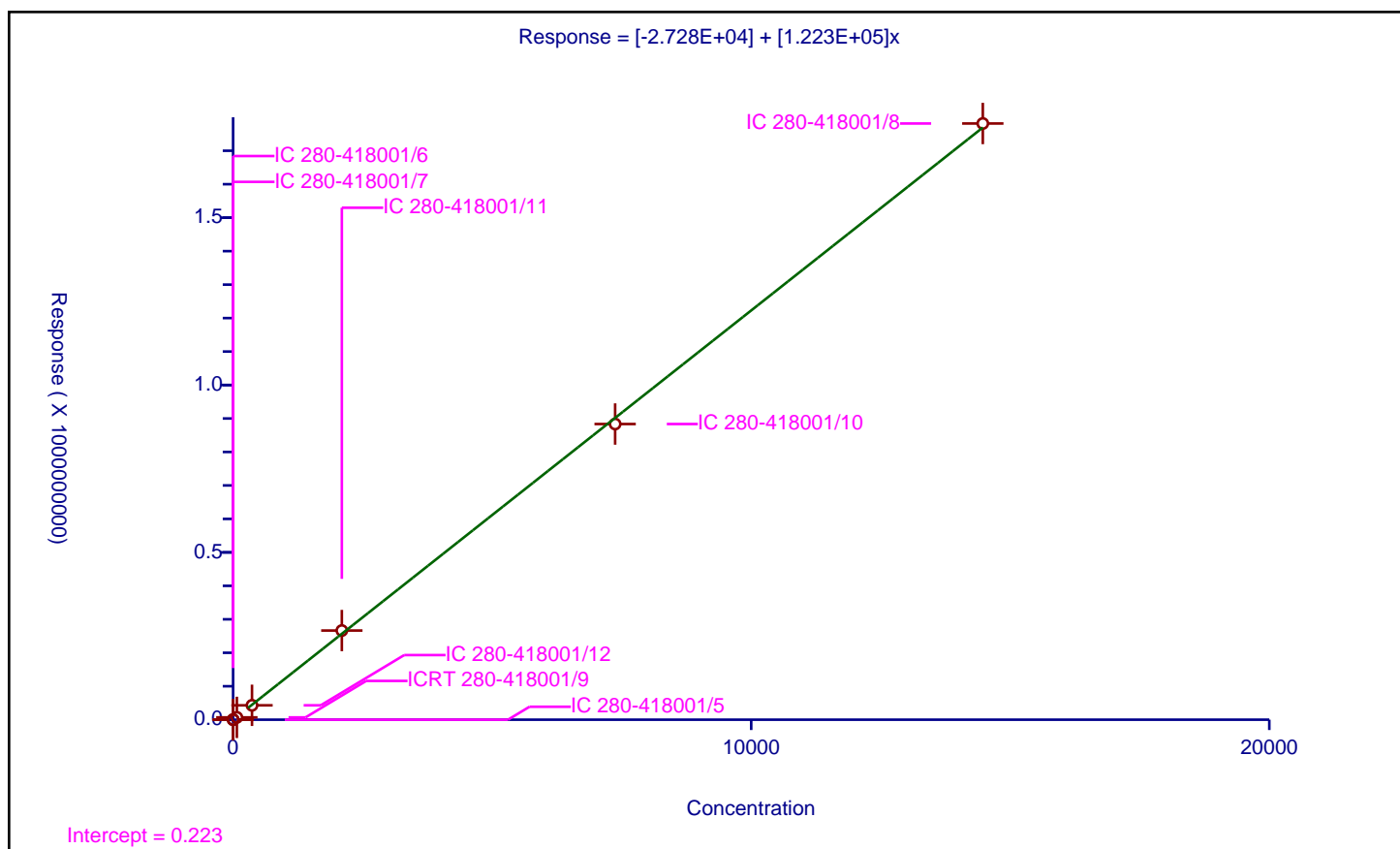
### Curve Coefficients

Intercept: -2.728E+04  
 Slope: 1.223E+05

### Error Coefficients

Standard Error: 10800000  
 Relative Standard Error: 14.0  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.492773	0.0			0.0	N
2	IC 280-418001/6	0.912542	108062.0			118418.702338	Y
3	IC 280-418001/7	1.825083	200566.0			109894.160086	Y
4	ICRT 280-418001/9	73.003333	6925875.0			94870.668006	Y
5	IC 280-418001/12	365.016667	42941234.0			117641.844665	Y
6	IC 280-418001/11	2098.957778	266350636.0			126896.61451	Y
7	IC 280-418001/10	7373.784444	883449000.0			119809.442038	Y
8	IC 280-418001/8	14470.156222	1781465136.0			123113.054803	Y





## Calibration

/ Ethane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

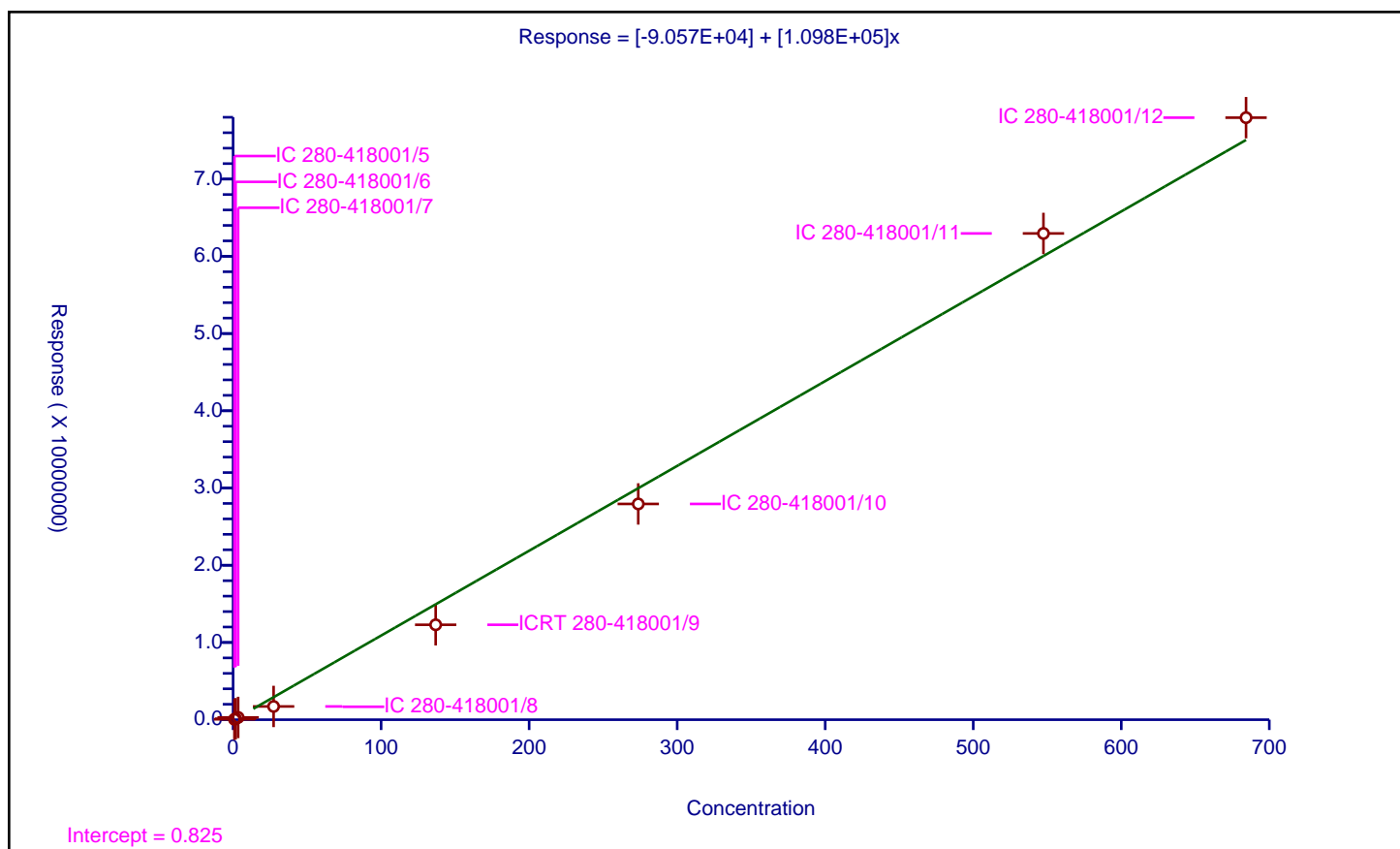
### Curve Coefficients

Intercept: -9.057E+04  
 Slope: 1.098E+05

### Error Coefficients

Standard Error: 2220000  
 Relative Standard Error: 24.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.923775	50562.0			54734.107331	Y
2	IC 280-418001/6	1.710694	123876.0			72412.697899	Y
3	IC 280-418001/7	3.421389	294305.0			86019.16051	Y
4	IC 280-418001/8	27.371111	1714638.0			62644.077292	Y
5	ICRT 280-418001/9	136.855556	12288331.0			89790.516359	Y
6	IC 280-418001/10	273.711111	27936979.0			102067.391004	Y
7	IC 280-418001/11	547.422222	62959111.0			115010.148372	Y
8	IC 280-418001/12	684.277778	77952000.0			113918.649022	Y





# Calibration

/ Ethylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

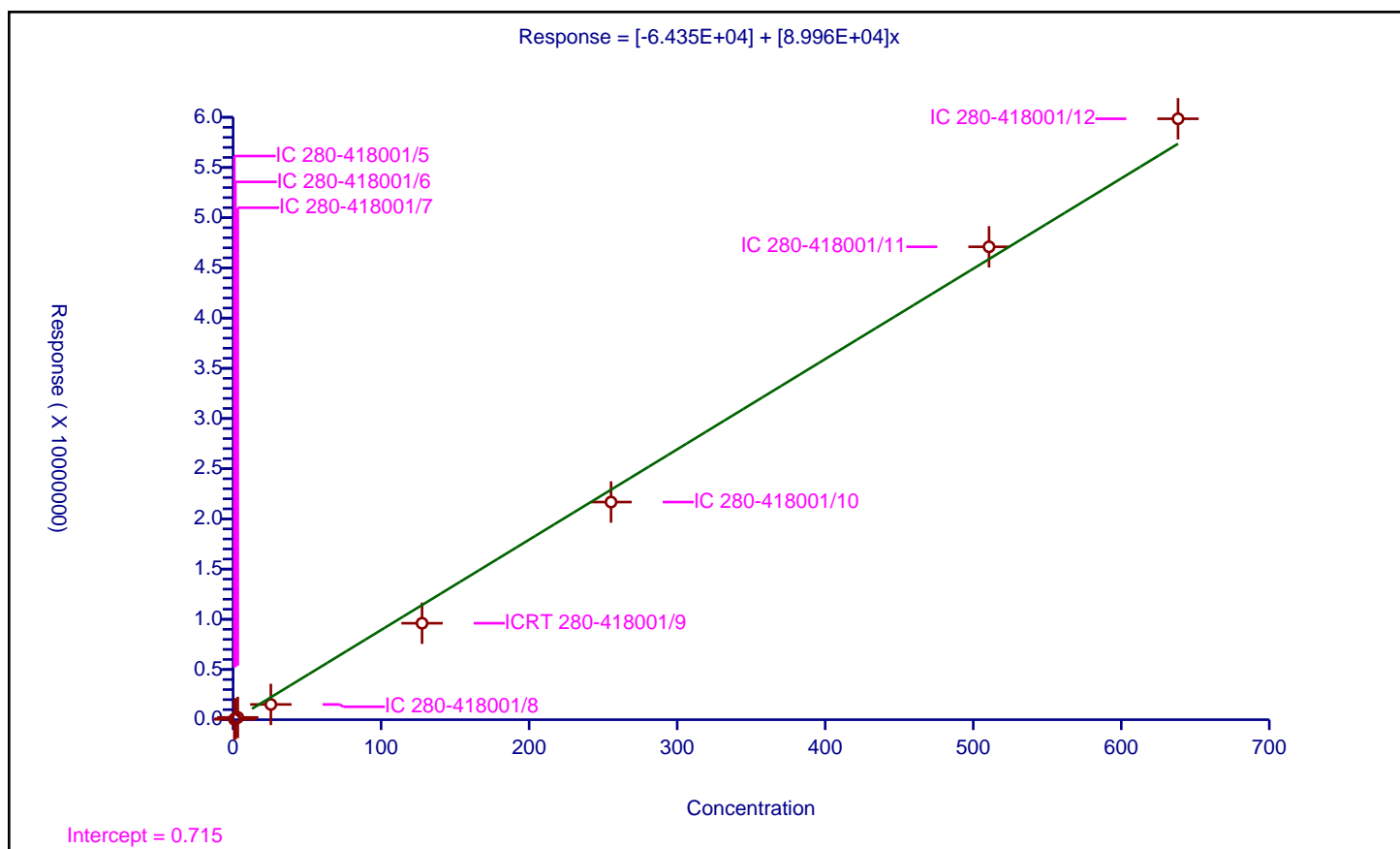
## Curve Coefficients

Intercept: -6.435E+04  
 Slope: 8.996E+04

## Error Coefficients

Standard Error: 1470000  
 Relative Standard Error: 20.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.86175	38238.0			44372.497824	Y
2	IC 280-418001/6	1.595833	95965.0			60134.72585	Y
3	IC 280-418001/7	3.191667	226218.0			70877.702349	Y
4	IC 280-418001/8	25.533333	1519542.0			59512.088773	Y
5	ICRT 280-418001/9	127.666667	9608961.0			75266.013055	Y
6	IC 280-418001/10	255.333333	21677751.0			84899.808094	Y
7	IC 280-418001/11	510.666667	47098556.0			92229.548303	Y
8	IC 280-418001/12	638.333333	59851517.0			93762.167624	Y





# Calibration

/ Propane

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

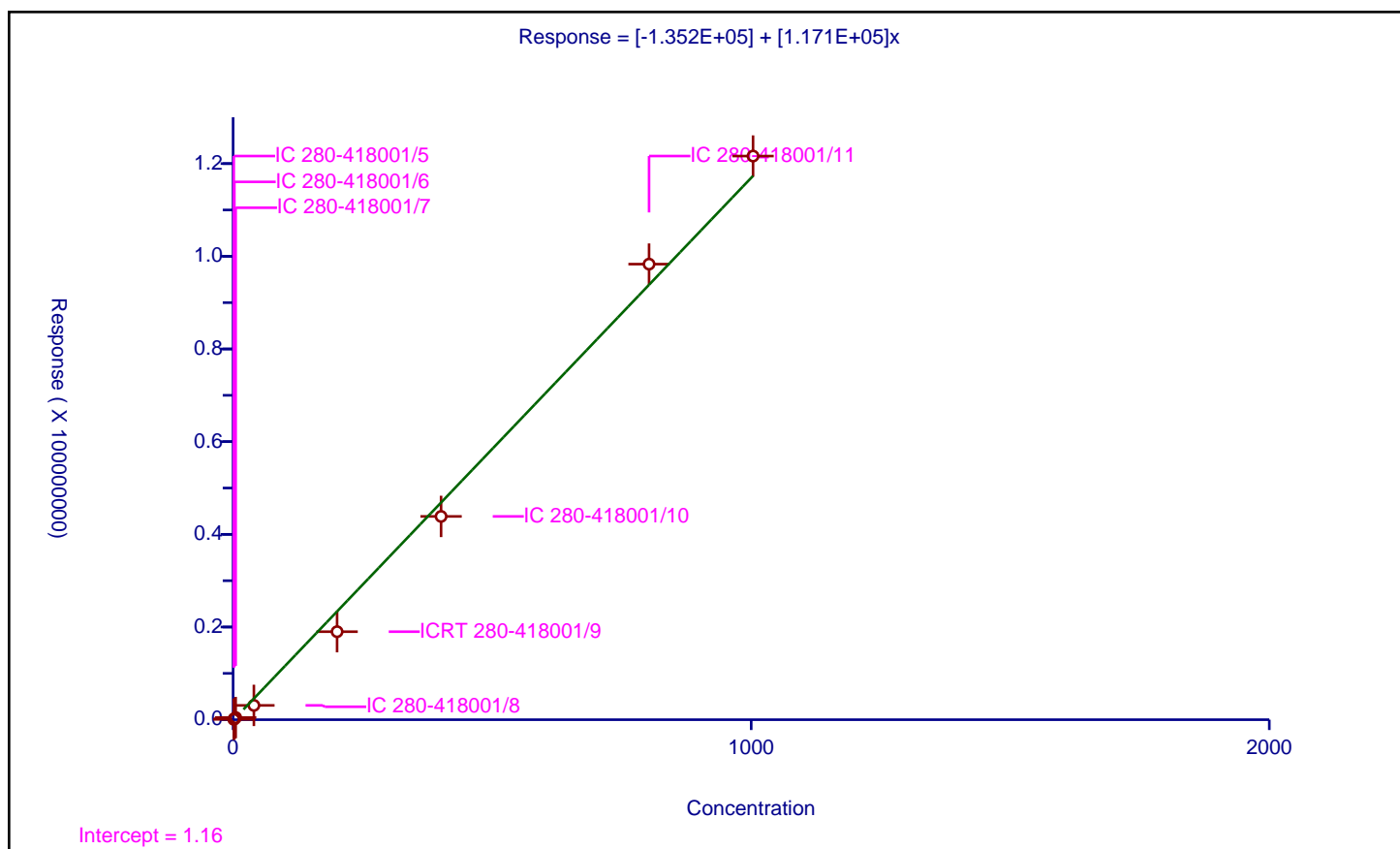
## Curve Coefficients

Intercept: -1.352E+05  
Slope: 1.171E+05

## Error Coefficients

Standard Error: 3380000  
Relative Standard Error: 21.4  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.3548	77660.0			57322.113965	Y
2	IC 280-418001/6	2.508889	195112.0			77768.290522	Y
3	IC 280-418001/7	5.017778	459953.0			91664.681133	Y
4	IC 280-418001/8	40.142222	3085276.0			76858.624889	Y
5	ICRT 280-418001/9	200.711111	18994401.0			94635.52314	Y
6	IC 280-418001/10	401.422222	43865241.0			109274.570693	Y
7	IC 280-418001/11	802.844444	98311240.0			122453.659212	Y
8	IC 280-418001/12	1003.555556	121631906.0			121200.969221	Y





# Calibration

/ Acetylene

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

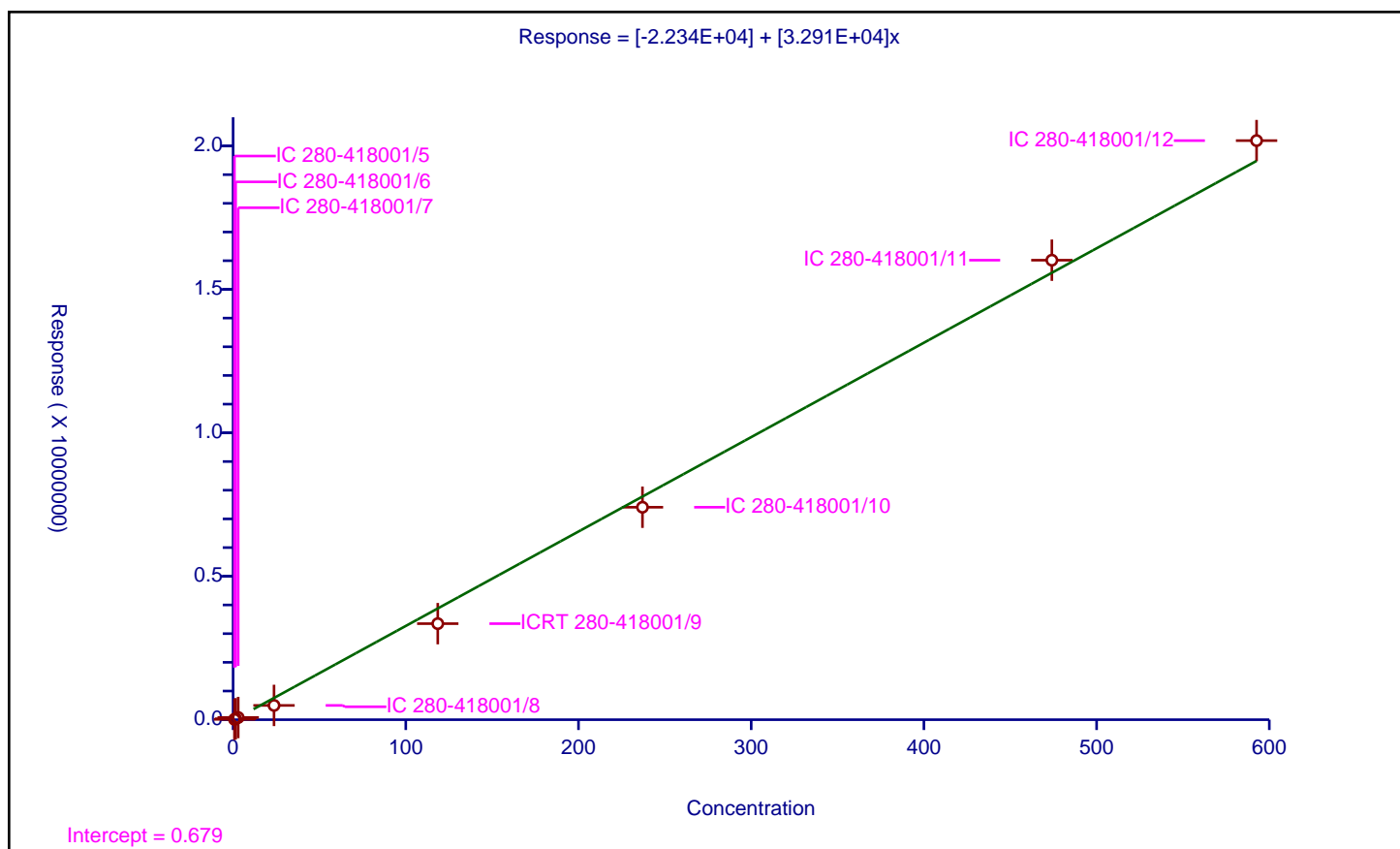
## Curve Coefficients

Intercept: -2.234E+04  
Slope: 3.291E+04

## Error Coefficients

Standard Error: 443000  
Relative Standard Error: 20.5  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.800025	12369.0			15460.766851	Y
2	IC 280-418001/6	1.481528	32661.0			22045.486078	Y
3	IC 280-418001/7	2.963056	75759.0			25567.863504	Y
4	IC 280-418001/8	23.704444	497712.0			20996.568857	Y
5	ICRT 280-418001/9	118.522222	3348510.0			28252.170245	Y
6	IC 280-418001/10	237.044444	7406183.0			31243.858161	Y
7	IC 280-418001/11	474.088889	16018496.0			33787.959126	Y
8	IC 280-418001/12	592.611111	20186957.0			34064.425424	Y





## Calibration

/ Butane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

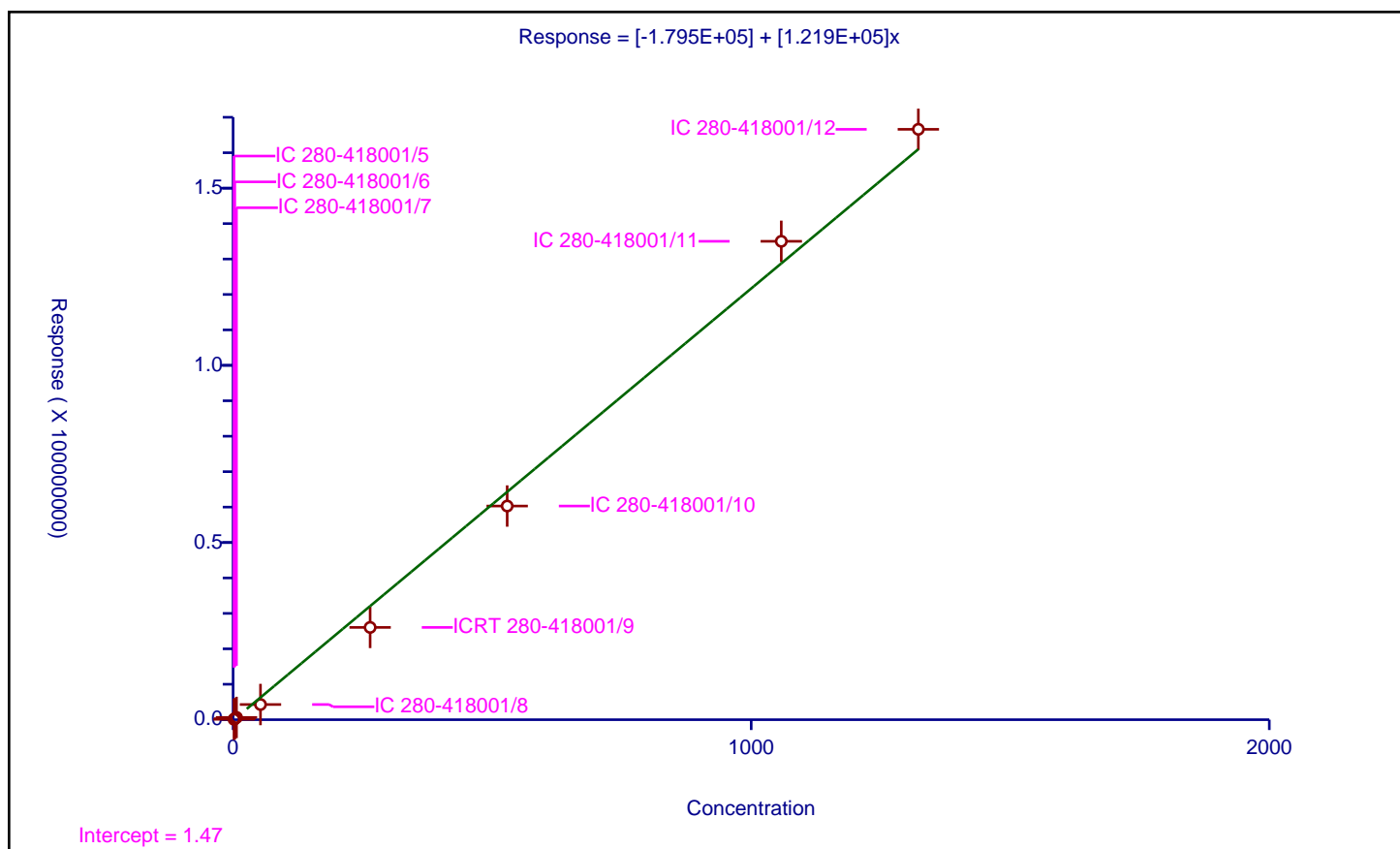
### Curve Coefficients

Intercept: -1.795E+05  
 Slope: 1.219E+05

### Error Coefficients

Standard Error: 4590000  
 Relative Standard Error: 21.0  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.785525	110310.0			61780.148696	Y
2	IC 280-418001/6	3.306528	275238.0			83240.794724	Y
3	IC 280-418001/7	6.613056	635880.0			96155.248456	Y
4	IC 280-418001/8	52.904444	4286824.0			81029.562734	Y
5	ICRT 280-418001/9	264.522222	26038425.0			98435.680682	Y
6	IC 280-418001/10	529.044444	60297724.0			113974.779687	Y
7	IC 280-418001/11	1058.088889	134999771.0			127588.307956	Y
8	IC 280-418001/12	1322.611111	166601866.0			125964.362918	Y





# Calibration

/ isobutylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

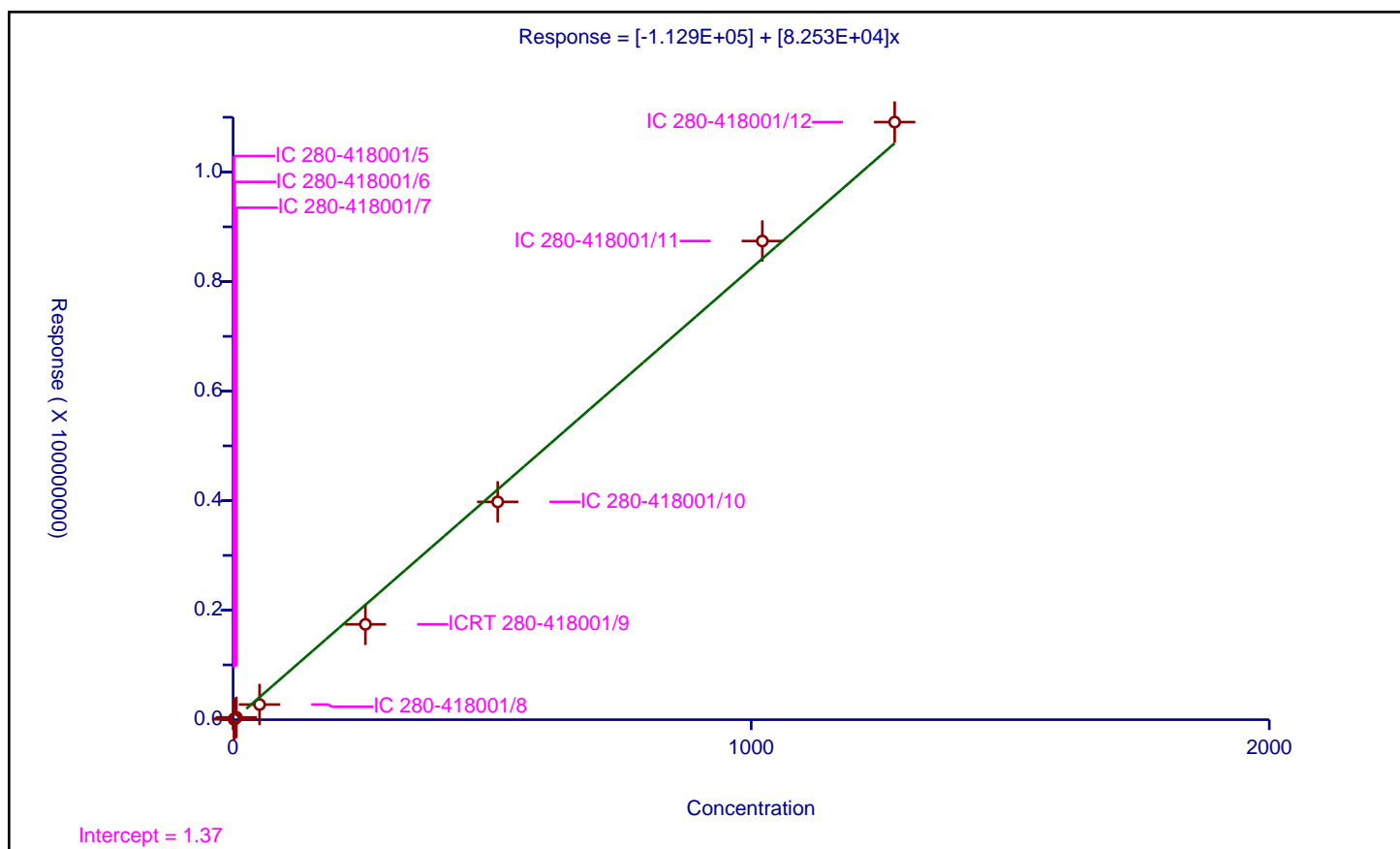
## Curve Coefficients

Intercept: -1.129E+05  
 Slope: 8.253E+04

## Error Coefficients

Standard Error: 2730000  
 Relative Standard Error: 20.6  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.7238	75455.0			43772.479406	Y
2	IC 280-418001/6	3.192222	182721.0			57239.43613	Y
3	IC 280-418001/7	6.384444	423371.0			66312.895928	Y
4	IC 280-418001/8	51.075556	2769315.0			54219.968239	Y
5	ICRT 280-418001/9	255.377778	17411477.0			68179.295597	Y
6	IC 280-418001/10	510.755556	39772095.0			77869.138314	Y
7	IC 280-418001/11	1021.511111	87404315.0			85563.7438	Y
8	IC 280-418001/12	1276.888889	109120320.0			85457.96032	Y





FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418001  
SDG No.: \_\_\_\_\_  
Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32649

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane		1.654	1.655	1.644	1.670	1.659	1.669	1.658			1.630 - 1.710	1.658
Ethene	2.467	2.470	2.468	2.464	2.467	2.463	2.466	2.463			2.417 - 2.517	2.466
Acetylene	2.610	2.610	2.606	2.602	2.602	2.599	2.600	2.598			2.522 - 2.682	2.603
Ethane	2.850	2.847	2.842	2.842	2.844	2.840	2.840	2.836			2.794 - 2.894	2.843
Propane	4.670	4.669	4.669	4.668	4.666	4.661	4.651	4.652			4.606 - 4.726	4.663
isobutylene	5.983	5.982	5.982	5.980	5.977	5.972	5.962	5.964			5.897 - 6.057	5.975
Butane	6.137	6.136	6.136	6.134	6.131	6.124	6.110	6.114			6.051 - 6.211	6.128



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32649

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	81302	97112 102781	91885 100418	106035 108325	Lin1	-28792.615	105097.085							1.0000		0.9900
Ethene	38127 64139	51074 72518	60260 79782	50394 80211	Lin1	-56097.843	77173.1012							0.9940		0.9900
Acetylene	16059 24455	18527 26953	21253 29597	17553 29316	Lin1	-19170.867	28526.2566							0.9950		0.9900
Ethane	44799 76635	60869 87894	72177 97031	60379 98235	Lin1	-76263.692	93914.8411							0.9940		0.9900
Propane	48411 80927	65610 93541	77510 103371	65618 104748	Lin1	-117074.45	100025.060							0.9940		0.9900
isobutylene	35954 57330	48078 65431	55703 71632	45821 71729	Lin1	-94821.571	69227.6609							0.9950		0.9900
Butane	54166 83641	69925 97108	81491 106967	68725 108365	Lin1	-151856.79	103539.491							0.9940		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110865-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32649

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Lin1	757886603	88619 36654270	167698 227369522	1534347638	5935285	7374	0.913 365	1.83 2099	14470	73.0
Ethene	Lin1	32856 18516218	81505 50927648	192330 40961219	1286715	8188374	0.862 255	1.60 638	3.19 511	25.5	128
Acetylene	Lin1	12848 6389018	27448 17539254	62975 13898273	416087	2898482	0.800 237	1.48 593	2.96 474	23.7	119
Ethane	Lin1	41384 24057655	104129 66395950	246946 53775812	1652633	10487883	0.924 274	1.71 684	3.42 547	27.4	137
Propane	Lin1	65587 37549613	164608 103738850	388926 84096078	2634066	16242964	1.35 401	2.51 1004	5.02 803	40.1	201
isobutylene	Lin1	61977 33419253	153475 91466230	355630 73272403	2340345	14640735	1.72 511	3.19 1277	6.38 1022	51.1	255
Butane	Lin1	96715 51374450	231210 141475092	538902 114659503	3635858	22125012	1.79 529	3.31 1323	6.61 1058	52.9	265

Curve Type Legend:

Lin1 = Linear 1/conc



# Calibration

/ Methane

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

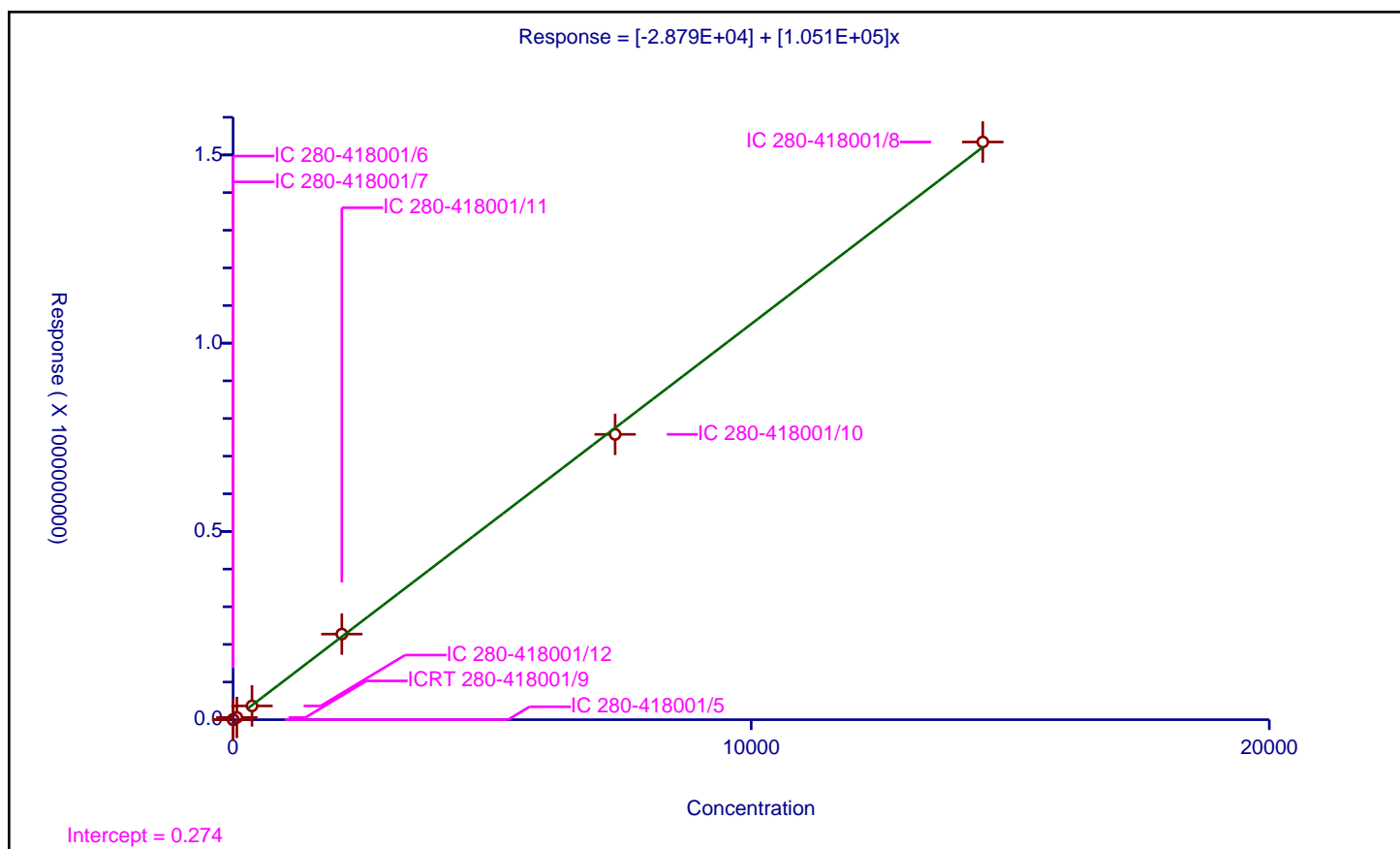
## Curve Coefficients

Intercept: -2.879E+04  
Slope: 1.051E+05

## Error Coefficients

Standard Error: 10300000  
Relative Standard Error: 14.4  
Correlation Coefficient: 1.000  
Coefficient of Determination (Adjusted): 1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.492773	0.0			0.0	N
2	IC 280-418001/6	0.912542	88619.0			97112.277975	Y
3	IC 280-418001/7	1.825083	167698.0			91885.119403	Y
4	ICRT 280-418001/9	73.003333	5935285.0			81301.561573	Y
5	IC 280-418001/12	365.016667	36654270.0			100418.072234	Y
6	IC 280-418001/11	2098.957778	227369522.0			108324.96223	Y
7	IC 280-418001/10	7373.784444	757886603.0			102781.225666	Y
8	IC 280-418001/8	14470.156222	1534347638.0			106035.319484	Y





# Calibration

/ Ethylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

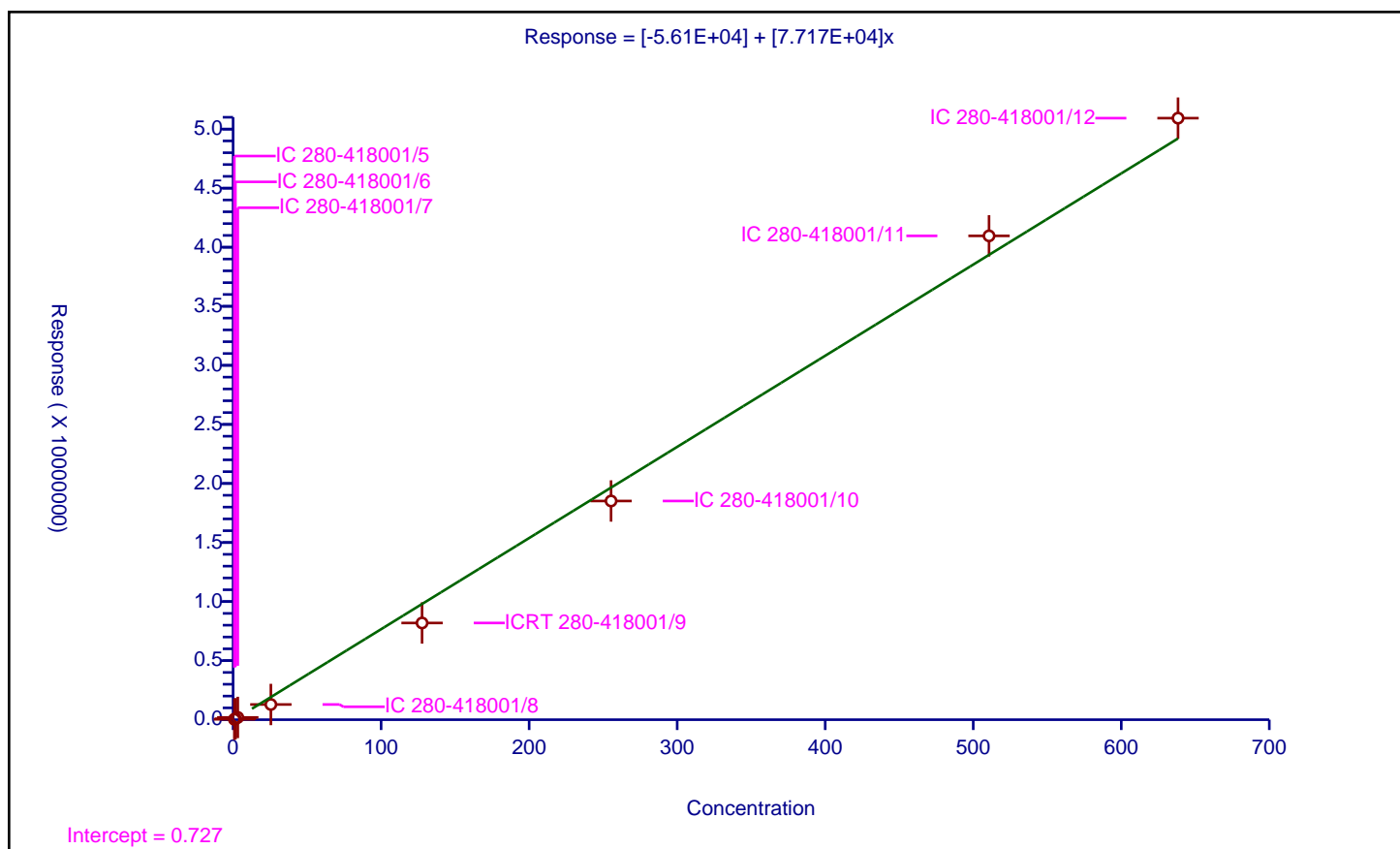
## Curve Coefficients

Intercept: -5.61E+04  
 Slope: 7.717E+04

## Error Coefficients

Standard Error: 1280000  
 Relative Standard Error: 20.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.86175	32856.0			38127.067015	Y
2	IC 280-418001/6	1.595833	81505.0			51073.629244	Y
3	IC 280-418001/7	3.191667	192330.0			60260.052219	Y
4	IC 280-418001/8	25.533333	1286715.0			50393.537859	Y
5	ICRT 280-418001/9	127.666667	8188374.0			64138.699739	Y
6	IC 280-418001/10	255.333333	18516218.0			72517.825065	Y
7	IC 280-418001/11	510.666667	40961219.0			80211.26436	Y
8	IC 280-418001/12	638.333333	50927648.0			79782.216188	Y





# Calibration

/ Acetylene

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

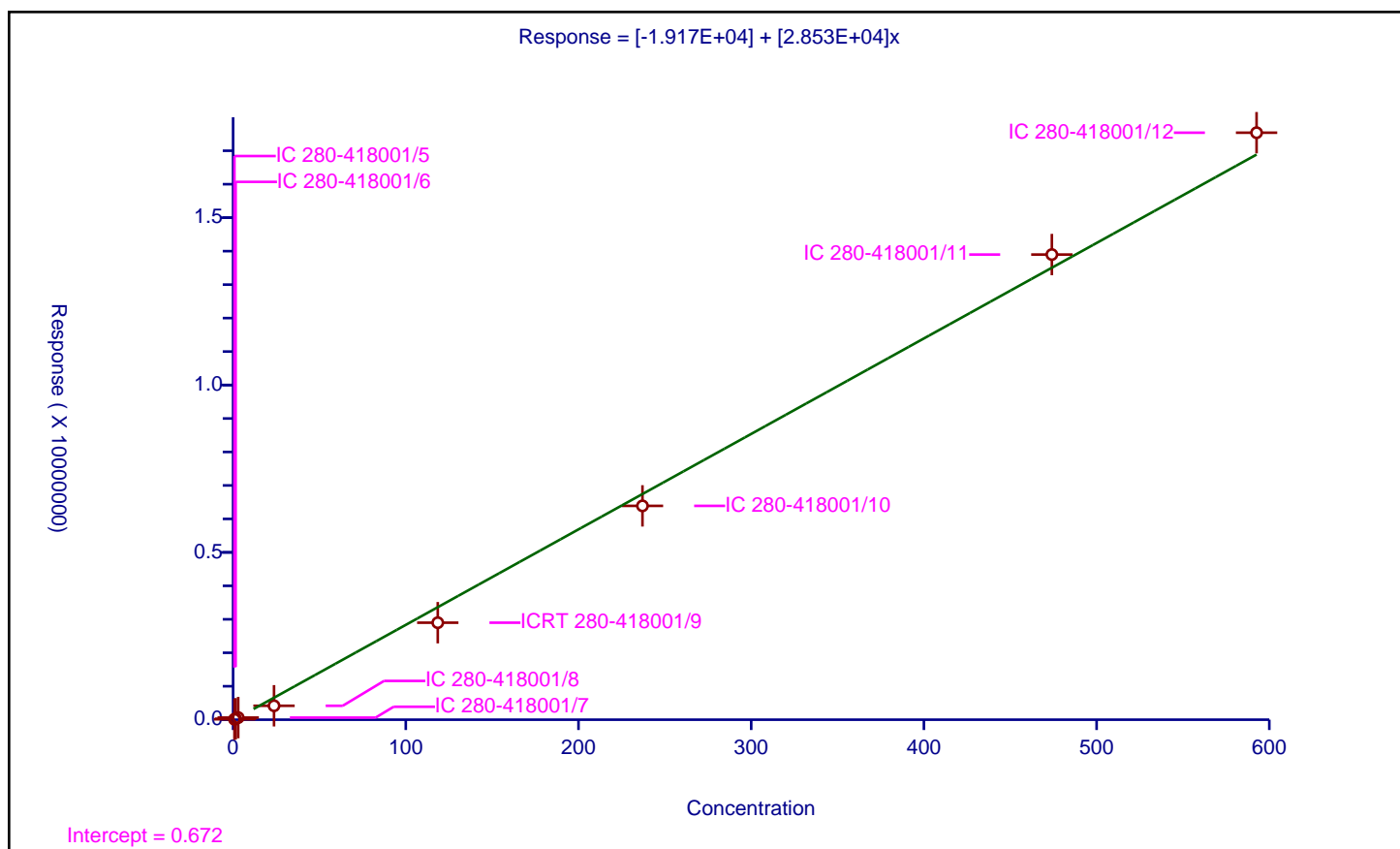
## Curve Coefficients

Intercept: -1.917E+04  
Slope: 2.853E+04

## Error Coefficients

Standard Error: 404000  
Relative Standard Error: 23.3  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.800025	12848.0			16059.498141	Y
2	IC 280-418001/6	1.481528	27448.0			18526.821037	Y
3	IC 280-418001/7	2.963056	62975.0			21253.398331	Y
4	IC 280-418001/8	23.704444	416087.0			17553.121777	Y
5	ICRT 280-418001/9	118.522222	2898482.0			24455.177651	Y
6	IC 280-418001/10	237.044444	6389018.0			26952.827412	Y
7	IC 280-418001/11	474.088889	13898273.0			29315.753492	Y
8	IC 280-418001/12	592.611111	17539254.0			29596.566232	Y





## Calibration

/ Ethane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

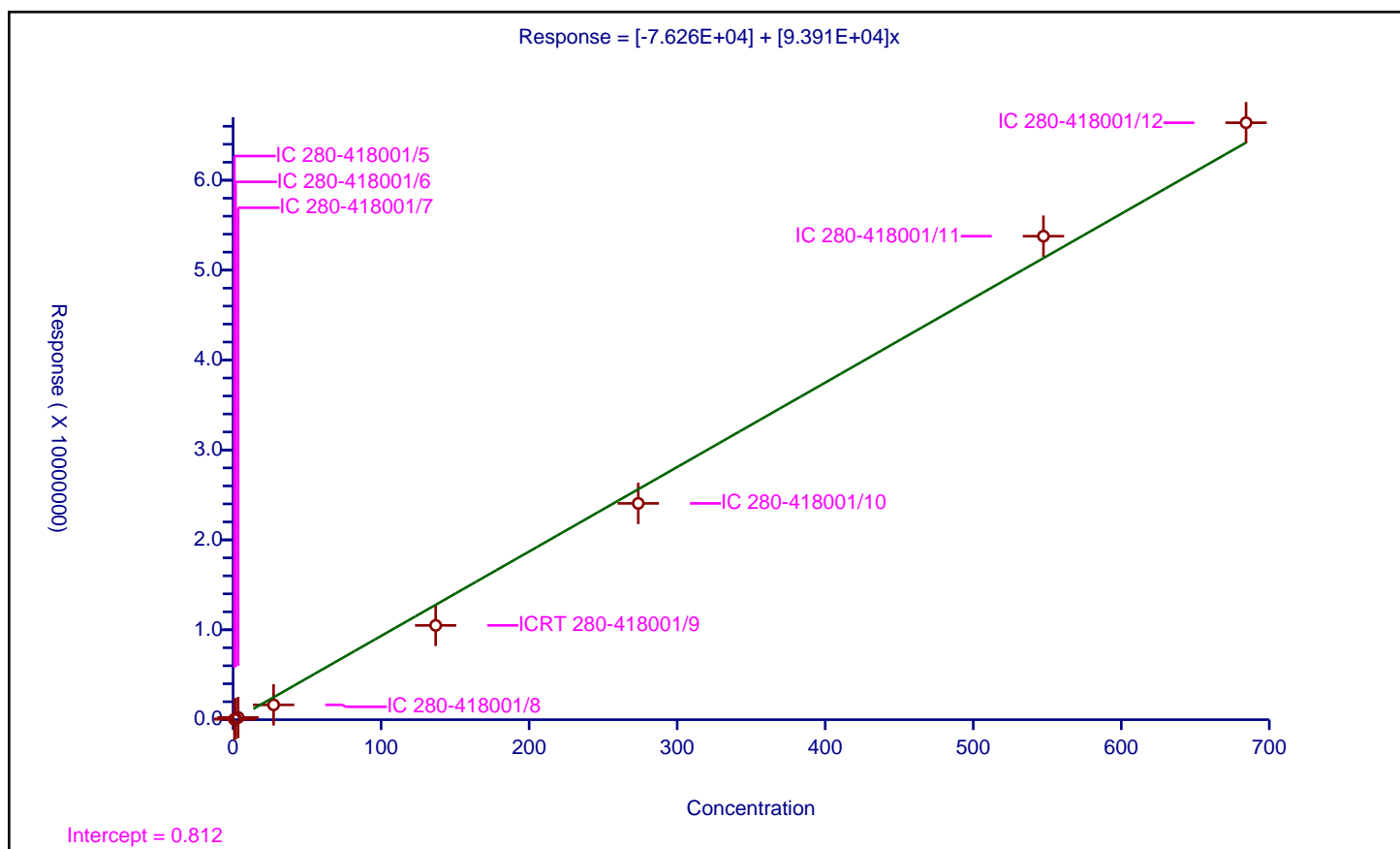
### Curve Coefficients

Intercept: -7.626E+04  
 Slope: 9.391E+04

### Error Coefficients

Standard Error: 1790000  
 Relative Standard Error: 21.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.923775	41384.0			44798.787584	Y
2	IC 280-418001/6	1.710694	104129.0			60869.432493	Y
3	IC 280-418001/7	3.421389	246946.0			72177.121052	Y
4	IC 280-418001/8	27.371111	1652633.0			60378.732646	Y
5	ICRT 280-418001/9	136.855556	10487883.0			76634.689454	Y
6	IC 280-418001/10	273.711111	24057655.0			87894.331006	Y
7	IC 280-418001/11	547.422222	53775812.0			98234.616384	Y
8	IC 280-418001/12	684.277778	66395950.0			97030.69741	Y





## Calibration

/ Propane

**Curve Type:** Linear  
**Weighting:** Conc  
**Origin:** None  
**Dependency:** Response  
**Calib Mode:** ESTD  
**Response Base:**  
**RF Rounding:** 0

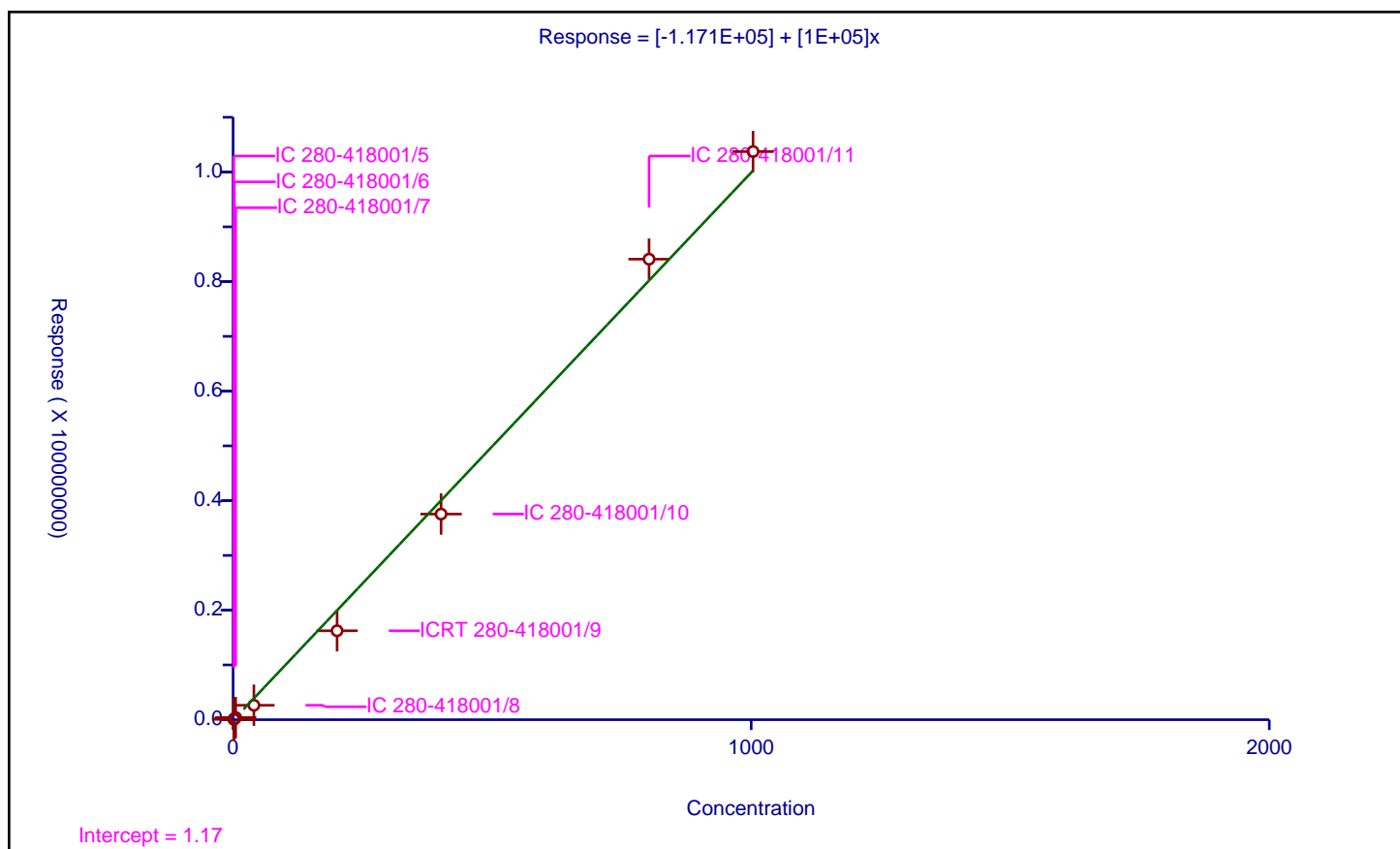
### Curve Coefficients

**Intercept:** -1.171E+05  
**Slope:** 1E+05

### Error Coefficients

**Standard Error:** 2860000  
**Relative Standard Error:** 21.5  
**Correlation Coefficient:** 0.998  
**Coefficient of Determination (Adjusted):** 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.3548	65587.0			48410.835548	Y
2	IC 280-418001/6	2.508889	164608.0			65609.920283	Y
3	IC 280-418001/7	5.017778	388926.0			77509.610274	Y
4	IC 280-418001/8	40.142222	2634066.0			65618.340345	Y
5	ICRT 280-418001/9	200.711111	16242964.0			80927.079274	Y
6	IC 280-418001/10	401.422222	37549613.0			93541.440711	Y
7	IC 280-418001/11	802.844444	84096078.0			104747.661371	Y
8	IC 280-418001/12	1003.555556	103738850.0			103371.307573	Y





# Calibration

/ isobutylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

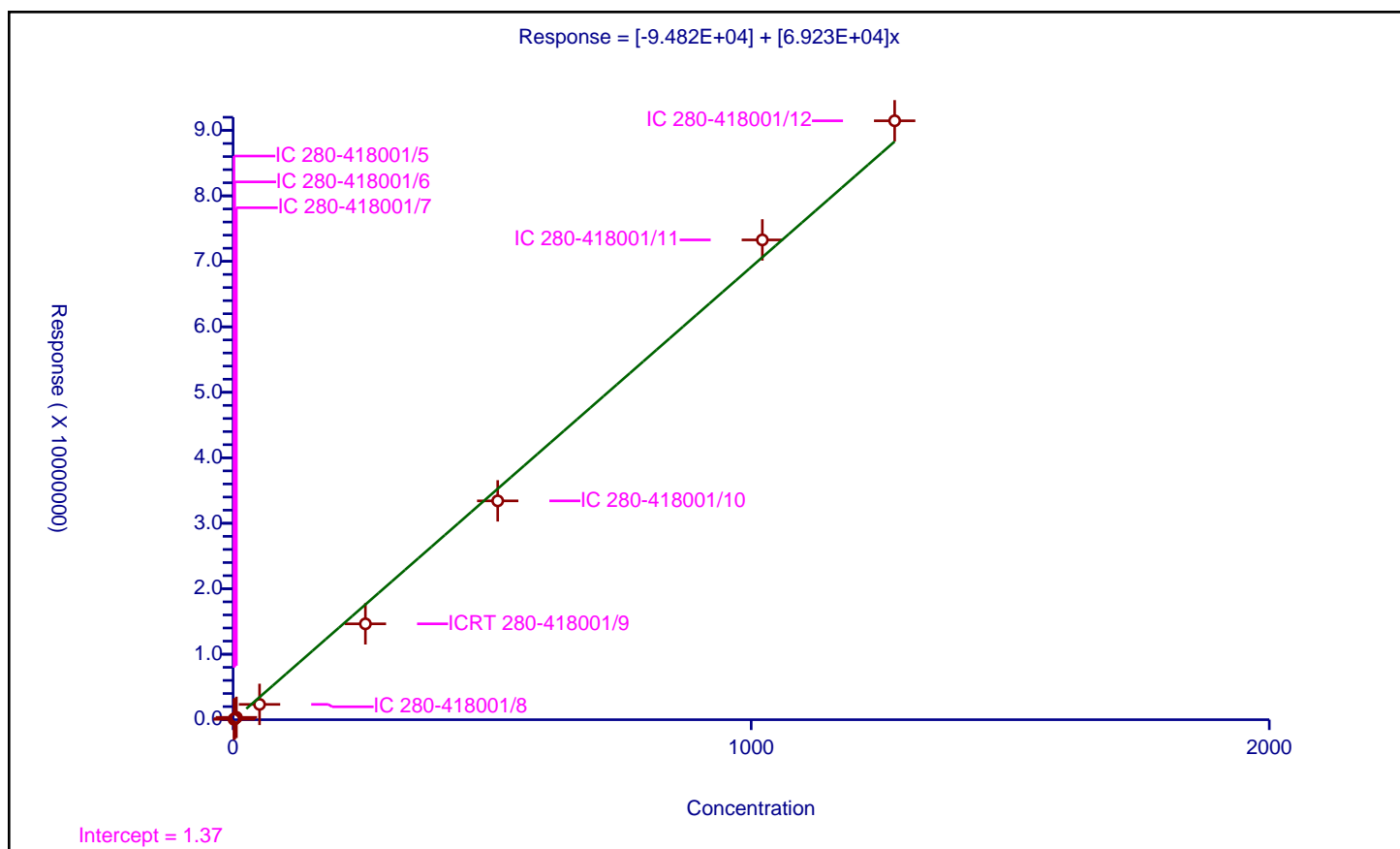
## Curve Coefficients

Intercept: -9.482E+04  
 Slope: 6.923E+04

## Error Coefficients

Standard Error: 2250000  
 Relative Standard Error: 20.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.7238	61977.0			35953.706927	Y
2	IC 280-418001/6	3.192222	153475.0			48077.793248	Y
3	IC 280-418001/7	6.384444	355630.0			55702.575705	Y
4	IC 280-418001/8	51.075556	2340345.0			45821.234337	Y
5	ICRT 280-418001/9	255.377778	14640735.0			57329.714149	Y
6	IC 280-418001/10	510.755556	33419253.0			65431.012226	Y
7	IC 280-418001/11	1021.511111	73272403.0			71729.423403	Y
8	IC 280-418001/12	1276.888889	91466230.0			71632.097981	Y





## Calibration

/ Butane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

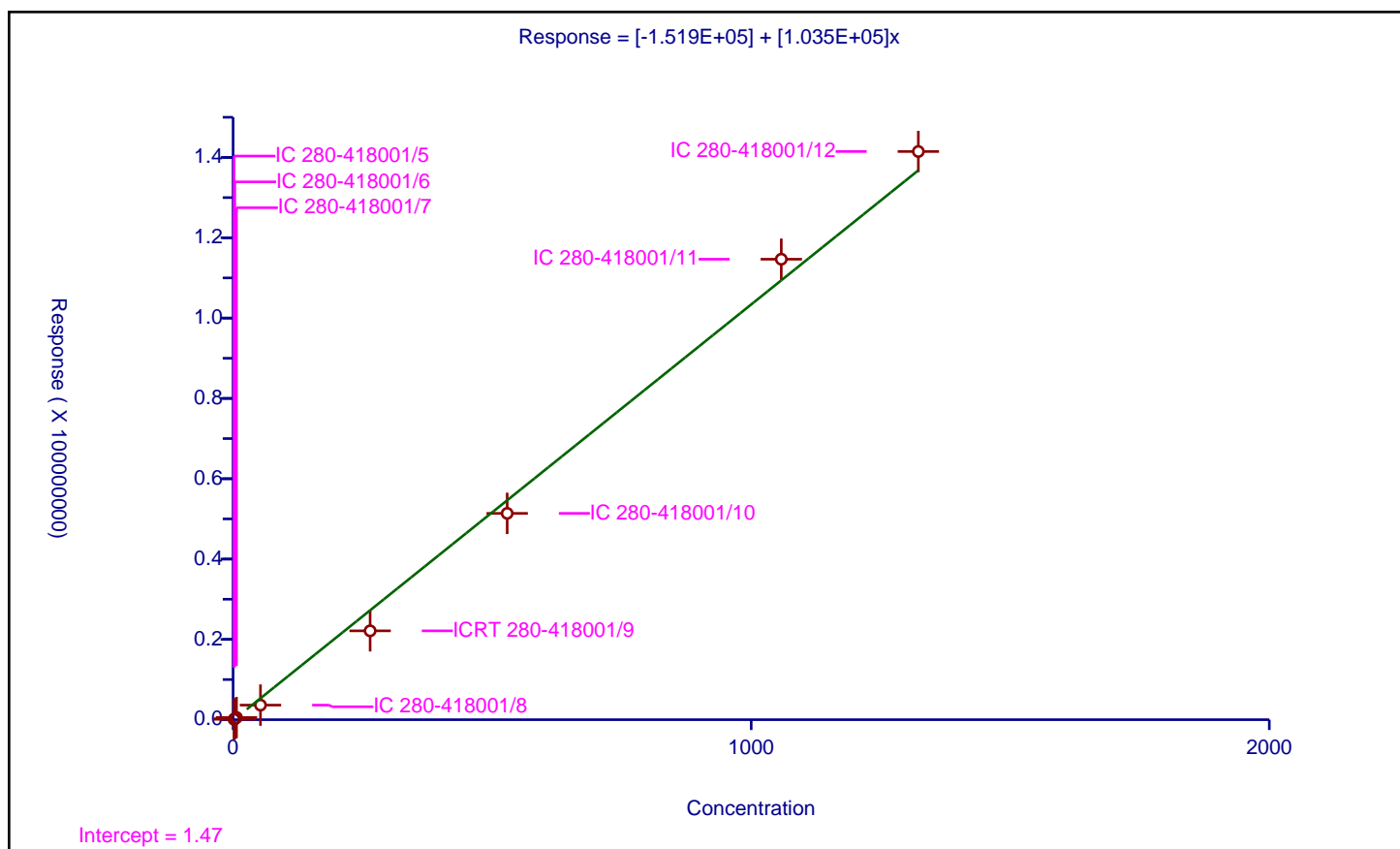
### Curve Coefficients

Intercept: -1.519E+05  
 Slope: 1.035E+05

### Error Coefficients

Standard Error: 3850000  
 Relative Standard Error: 21.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.785525	96715.0			54166.141611	Y
2	IC 280-418001/6	3.306528	231210.0			69925.316083	Y
3	IC 280-418001/7	6.613056	538902.0			81490.620405	Y
4	IC 280-418001/8	52.904444	3635858.0			68725.00105	Y
5	ICRT 280-418001/9	264.522222	22125012.0			83641.41135	Y
6	IC 280-418001/10	529.044444	51374450.0			97108.003948	Y
7	IC 280-418001/11	1058.088889	114659503.0			108364.716995	Y
8	IC 280-418001/12	1322.611111	141475092.0			106966.508002	Y





FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06100013.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		122670		147	146	0.5	20.0
Ethane	Lin1		118054		295	274	7.8	20.0
Ethene	Lin1		96135		274	255	7.1	20.0
Propane	Lin1		124602		428	401	6.7	20.0
Acetylene	Lin1		33632		243	237	2.5	20.0
Butane	Lin1		128169		558	529	5.5	20.0
isobutylene	Lin1		86021		534	511	4.5	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06100013.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.25	1.21	1.29
Ethane	1.52	1.47	1.57
Ethene	1.83	1.79	1.89
Propane	2.58	2.53	2.65
Acetylene	4.06	3.99	4.15
Butane	4.35	4.28	4.44
isobutylene	5.28	5.21	5.37



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06100013.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		104926		146	146	0.0	20.0
Ethene	Lin1		81837		271	255	6.3	20.0
Acetylene	Lin1		29185		243	237	2.6	20.0
Ethane	Lin1		100603		294	274	7.4	20.0
Propane	Lin1		106586		429	401	6.9	20.0
isobutylene	Lin1		72255		534	511	4.6	20.0
Butane	Lin1		108885		558	529	5.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06100013.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.66	1.63	1.71
Ethene	2.46	2.42	2.52
Acetylene	2.60	2.52	2.68
Ethane	2.84	2.79	2.89
Propane	4.66	4.61	4.73
isobutylene	5.97	5.90	6.06
Butane	6.12	6.05	6.21



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-419713/3 Calibration Date: 06/23/2018 09:57  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		132929		79.6	73.0	9.0	20.0
Ethane	Lin1		129781		163	137	18.8	20.0
Ethene	Lin1		104989		150	128	17.3	20.0
Propane	Lin1		137655		237	201	18.2	20.0
Acetylene	Lin1		36221		131	119	10.6	20.0
Butane	Lin1		144235		315	265	18.9	20.0
isobutylene	Lin1		96869		301	255	17.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-419713/3 Calibration Date: 06/23/2018 09:57  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.54	1.49	1.59
Ethene	1.87	1.82	1.92
Propane	2.62	2.56	2.68
Acetylene	4.08	4.00	4.16
Butane	4.38	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-419713/3 Calibration Date: 06/23/2018 09:57  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		113750		79.3	73.0	8.6	20.0
Ethene	Lin1		89366		149	128	16.4	20.0
Acetylene	Lin1		31466		131	119	10.9	20.0
Ethane	Lin1		110548		162	137	18.3	20.0
Propane	Lin1		117608		237	201	18.2	20.0
isobutylene	Lin1		81452		302	255	18.2	20.0
Butane	Lin1		122549		315	265	18.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-419713/3 Calibration Date: 06/23/2018 09:57  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.69	1.65	1.73
Ethene	2.49	2.44	2.54
Acetylene	2.63	2.55	2.71
Ethane	2.87	2.82	2.92
Propane	4.68	4.62	4.74
isobutylene	5.99	5.91	6.07
Butane	6.14	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/20 Calibration Date: 06/23/2018 14:48  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230020.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		121246		72.6	73.0	-0.5	20.0
Ethane	Lin1		117129		147	137	7.2	20.0
Ethene	Lin1		97363		139	128	8.8	20.0
Propane	Lin1		122608		211	201	5.3	20.0
Acetylene	Lin1		36343		132	119	11.0	20.0
Butane	Lin1		124600		272	265	2.8	20.0
isobutylene	Lin1		85714		267	255	4.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/20 Calibration Date: 06/23/2018 14:48  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230020.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.53	1.49	1.59
Ethene	1.85	1.82	1.92
Propane	2.61	2.56	2.68
Acetylene	4.08	4.00	4.16
Butane	4.38	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/20 Calibration Date: 06/23/2018 14:48  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230020.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		103691		72.3	73.0	-1.0	20.0
Ethene	Lin1		82887		138	128	8.0	20.0
Acetylene	Lin1		31623		132	119	11.4	20.0
Ethane	Lin1		99788		146	137	6.8	20.0
Propane	Lin1		104787		211	201	5.3	20.0
isobutylene	Lin1		72113		267	255	4.7	20.0
Butane	Lin1		105905		272	265	2.8	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/20 Calibration Date: 06/23/2018 14:48  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230020.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.68	1.65	1.73
Ethene	2.48	2.44	2.54
Acetylene	2.61	2.55	2.71
Ethane	2.86	2.82	2.92
Propane	4.67	4.62	4.74
isobutylene	5.98	5.91	6.07
Butane	6.13	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/32 Calibration Date: 06/23/2018 19:41  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230071.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		128571		77.0	73.0	5.5	20.0
Ethane	Lin1		125464		157	137	14.8	20.0
Ethene	Lin1		102936		147	128	15.0	20.0
Propane	Lin1		133885		231	201	14.9	20.0
Acetylene	Lin1		37249		135	119	13.8	20.0
Butane	Lin1		142203		310	265	17.3	20.0
isobutylene	Lin1		96485		300	255	17.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/32 Calibration Date: 06/23/2018 19:41  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230071.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.53	1.49	1.59
Ethene	1.85	1.82	1.92
Propane	2.61	2.56	2.68
Acetylene	4.08	4.00	4.16
Butane	4.38	4.30	4.46
isobutylene	5.31	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/32 Calibration Date: 06/23/2018 19:41  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230071.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		110166		76.8	73.0	5.2	20.0
Ethene	Lin1		87692		146	128	14.2	20.0
Acetylene	Lin1		32535		136	119	14.6	20.0
Ethane	Lin1		106964		157	137	14.5	20.0
Propane	Lin1		114374		231	201	14.9	20.0
isobutylene	Lin1		81028		300	255	17.6	20.0
Butane	Lin1		120469		309	265	16.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419713/32 Calibration Date: 06/23/2018 19:41  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06230071.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.68	1.65	1.73
Ethene	2.48	2.44	2.54
Acetylene	2.61	2.55	2.71
Ethane	2.85	2.82	2.92
Propane	4.67	4.62	4.74
isobutylene	5.98	5.91	6.07
Butane	6.13	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-420253/3 Calibration Date: 06/27/2018 13:46  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06270003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		119607		71.6	73.0	-1.9	20.0
Ethane	Lin1		116998		147	137	7.1	20.0
Ethene	Lin1		95596		136	128	6.8	20.0
Propane	Lin1		123492		213	201	6.1	20.0
Acetylene	Lin1		34472		125	119	5.3	20.0
Butane	Lin1		128743		281	265	6.2	20.0
isobutylene	Lin1		88442		275	255	7.7	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-420253/3 Calibration Date: 06/27/2018 13:46  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06270003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.54	1.49	1.59
Ethene	1.86	1.81	1.91
Propane	2.62	2.56	2.68
Acetylene	4.09	4.01	4.17
Butane	4.39	4.31	4.47
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-420253/3 Calibration Date: 06/27/2018 13:46  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06270003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		102712		71.6	73.0	-1.9	20.0
Ethene	Lin1		81583		136	128	6.3	20.0
Acetylene	Lin1		29978		125	119	5.7	20.0
Ethane	Lin1		99973		146	137	7.0	20.0
Propane	Lin1		105895		214	201	6.5	20.0
isobutylene	Lin1		74569		276	255	8.3	20.0
Butane	Lin1		109837		282	265	6.6	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-420253/3 Calibration Date: 06/27/2018 13:46  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06270003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.68	1.64	1.72
Ethene	2.48	2.43	2.53
Acetylene	2.61	2.53	2.69
Ethane	2.85	2.80	2.90
Propane	4.67	4.61	4.73
isobutylene	5.98	5.90	6.06
Butane	6.13	6.05	6.21



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420253/20 Calibration Date: 06/27/2018 17:49  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06270020.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		130533		78.2	73.0	7.1	20.0
Ethane	Lin1		126751		159	137	16.0	20.0
Ethene	Lin1		102884		147	128	14.9	20.0
Propane	Lin1		134606		232	201	15.6	20.0
Acetylene	Lin1		36169		131	119	10.5	20.0
Butane	Lin1		141117		308	265	16.4	20.0
isobutylene	Lin1		94951		295	255	15.6	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420253/20 Calibration Date: 06/27/2018 17:49  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06270020.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.25	1.22	1.30
Ethane	1.53	1.49	1.59
Ethene	1.84	1.81	1.91
Propane	2.60	2.56	2.68
Acetylene	4.08	4.01	4.17
Butane	4.38	4.31	4.47
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420253/20 Calibration Date: 06/27/2018 17:49  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06270020.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		112033		78.1	73.0	7.0	20.0
Ethene	Lin1		87868		146	128	14.4	20.0
Acetylene	Lin1		31620		132	119	11.4	20.0
Ethane	Lin1		108382		159	137	16.0	20.0
Propane	Lin1		115443		233	201	16.0	20.0
isobutylene	Lin1		80080		297	255	16.2	20.0
Butane	Lin1		120326		309	265	16.8	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420253/20 Calibration Date: 06/27/2018 17:49  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06270020.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.66	1.64	1.72
Ethene	2.46	2.43	2.53
Acetylene	2.60	2.53	2.69
Ethane	2.84	2.80	2.90
Propane	4.66	4.61	4.73
isobutylene	5.98	5.90	6.06
Butane	6.13	6.05	6.21



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-419713/4  
Matrix: Water Lab File ID: 06230004.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 10:11  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.596	J	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420253/4  
Matrix: Water Lab File ID: 06270004.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 14:00  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.626	J	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-419713/5  
Matrix: Water Lab File ID: 06230005.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 10:24  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	130		5.0	0.22
74-85-1	Ethene	250		5.0	0.40
74-84-0	Ethane	268		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420253/5  
Matrix: Water Lab File ID: 06270005.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 14:15  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	141		5.0	0.22
74-85-1	Ethene	261		5.0	0.40
74-84-0	Ethane	289		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-419713/6  
Matrix: Water Lab File ID: 06230006.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 10:38  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	141		5.0	0.22
74-85-1	Ethene	266		5.0	0.40
74-84-0	Ethane	290		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-420253/6  
Matrix: Water Lab File ID: 06270006.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 14:29  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	141		5.0	0.22
74-85-1	Ethene	262		5.0	0.40
74-84-0	Ethane	291		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-108 MS Lab Sample ID: 280-110865-12 MS  
Matrix: Water Lab File ID: 06230064.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:46  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 14:20  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 3  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	17000		15	0.65
74-85-1	Ethene	823		15	1.2
74-84-0	Ethane	926		15	1.7



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111018-H-5 MS  
Matrix: Water Lab File ID: 06270009.D  
Analysis Method: RSK-175 Date Collected: 06/14/2018 11:18  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 15:12  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	193		5.0	0.22
74-85-1	Ethene	276		5.0	0.40
74-84-0	Ethane	313		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-108 MSD Lab Sample ID: 280-110865-12 MSD  
Matrix: Water Lab File ID: 06230065.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:46  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 14:34  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 3  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	20400		15	0.65
74-85-1	Ethene	855		15	1.2
74-84-0	Ethane	996		15	1.7



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111018-H-5 MSD  
Matrix: Water Lab File ID: 06270010.D  
Analysis Method: RSK-175 Date Collected: 06/14/2018 11:18  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 15:26  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	169		5.0	0.22
74-85-1	Ethene	249		5.0	0.40
74-84-0	Ethane	275		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-108 DU Lab Sample ID: 280-110865-12 DU  
Matrix: Water Lab File ID: 06230063.D  
Analysis Method: RSK-175 Date Collected: 06/12/2018 15:46  
Sample wt/vol: 18 (mL) Date Analyzed: 06/23/2018 14:06  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 3  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419713 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	12900		15	0.65
74-85-1	Ethene	ND		15	1.2
74-84-0	Ethane	8.80	J	15	1.7



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111018-G-5 DU  
Matrix: Water Lab File ID: 06270008.D  
Analysis Method: RSK-175 Date Collected: 06/14/2018 11:18  
Sample wt/vol: 18 (mL) Date Analyzed: 06/27/2018 14:58  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420253 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	38.9		5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Start Date: 06/10/2018 20:09Analysis Batch Number: 418001 End Date: 06/10/2018 22:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-418001/5		06/10/2018 20:09	1	06100005.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/5		06/10/2018 20:09	1	06100005.D	HP-Plot Q 0.53 (mm)
IC 280-418001/6		06/10/2018 20:23	1	06100006.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/6		06/10/2018 20:23	1	06100006.D	HP-Plot Q 0.53 (mm)
IC 280-418001/7		06/10/2018 20:38	1	06100007.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/7		06/10/2018 20:38	1	06100007.D	HP-Plot Q 0.53 (mm)
IC 280-418001/8		06/10/2018 20:52	1	06100008.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/8		06/10/2018 20:52	1	06100008.D	HP-Plot Q 0.53 (mm)
ICRT 280-418001/9		06/10/2018 21:06	1	06100009.D	Rt-Alumina KCl 0.53 (mm)
ICRT 280-418001/9		06/10/2018 21:06	1	06100009.D	HP-Plot Q 0.53 (mm)
IC 280-418001/10		06/10/2018 21:20	1	06100010.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/10		06/10/2018 21:20	1	06100010.D	HP-Plot Q 0.53 (mm)
IC 280-418001/11		06/10/2018 21:34	1	06100011.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/11		06/10/2018 21:34	1	06100011.D	HP-Plot Q 0.53 (mm)
IC 280-418001/12		06/10/2018 21:48	1	06100012.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/12		06/10/2018 21:48	1	06100012.D	HP-Plot Q 0.53 (mm)
ICV 280-418001/13		06/10/2018 22:02	1	06100013.D	Rt-Alumina KCl 0.53 (mm)
ICV 280-418001/13		06/10/2018 22:02	1	06100013.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 06/23/2018 09:57Analysis Batch Number: 419713End Date: 06/23/2018 19:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-419713/3		06/23/2018 09:57	1	06230003.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-419713/3		06/23/2018 09:57	1	06230003.D	HP-Plot Q 0.53 (mm)
MB 280-419713/4		06/23/2018 10:11	1	06230004.D	Rt-Alumina KCl 0.53 (mm)
MB 280-419713/4		06/23/2018 10:11	1	06230004.D	HP-Plot Q 0.53 (mm)
LCS 280-419713/5		06/23/2018 10:24	1	06230005.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-419713/5		06/23/2018 10:24	1	06230005.D	HP-Plot Q 0.53 (mm)
LCSD 280-419713/6		06/23/2018 10:38	1	06230006.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-419713/6		06/23/2018 10:38	1	06230006.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 10:52	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 10:52	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 11:06	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 11:06	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 11:20	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 11:20	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 11:33	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 11:33	1		HP-Plot Q 0.53 (mm)
280-110865-4		06/23/2018 11:47	1	06230011.D	Rt-Alumina KCl 0.53 (mm)
280-110865-4		06/23/2018 11:47	1	06230011.D	HP-Plot Q 0.53 (mm)
280-110865-5		06/23/2018 12:01	1	06230012.D	Rt-Alumina KCl 0.53 (mm)
280-110865-5		06/23/2018 12:01	1	06230012.D	HP-Plot Q 0.53 (mm)
280-110865-6		06/23/2018 12:15	1	06230013.D	Rt-Alumina KCl 0.53 (mm)
280-110865-6		06/23/2018 12:15	1	06230013.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 12:29	1		Rt-Alumina KCl 0.53 (mm)
280-110865-8		06/23/2018 12:29	1	06230014.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 12:43	1		Rt-Alumina KCl 0.53 (mm)
280-110865-9		06/23/2018 12:43	1	06230015.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 12:57	1		Rt-Alumina KCl 0.53 (mm)
280-110865-10		06/23/2018 12:57	1	06230016.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 13:11	1		Rt-Alumina KCl 0.53 (mm)
280-110865-11		06/23/2018 13:11	1	06230017.D	HP-Plot Q 0.53 (mm)
280-110865-13		06/23/2018 13:24	1	06230018.D	Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 13:24	1		HP-Plot Q 0.53 (mm)
280-110865-15		06/23/2018 13:38	1	06230019.D	Rt-Alumina KCl 0.53 (mm)
280-110865-15		06/23/2018 13:38	1	06230019.D	HP-Plot Q 0.53 (mm)
280-110865-12		06/23/2018 13:52	3	06230062.D	Rt-Alumina KCl 0.53 (mm)
280-110865-12		06/23/2018 13:52	3	06230062.D	HP-Plot Q 0.53 (mm)
280-110865-12 DU		06/23/2018 14:06	3	06230063.D	Rt-Alumina KCl 0.53 (mm)
280-110865-12 DU		06/23/2018 14:06	3	06230063.D	HP-Plot Q 0.53 (mm)
280-110865-12 MS		06/23/2018 14:20	3	06230064.D	Rt-Alumina KCl 0.53 (mm)
280-110865-12 MS		06/23/2018 14:20	3	06230064.D	HP-Plot Q 0.53 (mm)
280-110865-12 MSD		06/23/2018 14:34	3	06230065.D	Rt-Alumina KCl 0.53 (mm)
280-110865-12 MSD		06/23/2018 14:34	3	06230065.D	HP-Plot Q 0.53 (mm)
CCV 280-419713/20		06/23/2018 14:48	1	06230020.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-419713/20		06/23/2018 14:48	1	06230020.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 15:02	1		Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Start Date: 06/23/2018 09:57

Analysis Batch Number: 419713 End Date: 06/23/2018 19:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/23/2018 15:02	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 15:16	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 15:16	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 15:30	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 15:30	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 15:44	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 15:44	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 15:57	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 15:57	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 16:11	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/23/2018 16:11	1		HP-Plot Q 0.53 (mm)
280-110865-16		06/23/2018 16:25	1	06230027.D	Rt-Alumina KCl 0.53 (mm)
280-110865-16		06/23/2018 16:25	1	06230027.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 16:39	1		Rt-Alumina KCl 0.53 (mm)
280-110865-17		06/23/2018 16:39	1	06230028.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/23/2018 16:53	1		Rt-Alumina KCl 0.53 (mm)
280-110865-18		06/23/2018 16:53	1	06230029.D	HP-Plot Q 0.53 (mm)
280-110865-19		06/23/2018 17:07	1	06230030.D	Rt-Alumina KCl 0.53 (mm)
280-110865-19		06/23/2018 17:07	1	06230030.D	HP-Plot Q 0.53 (mm)
280-110865-21		06/23/2018 17:21	1	06230031.D	Rt-Alumina KCl 0.53 (mm)
280-110865-21		06/23/2018 17:21	1	06230031.D	HP-Plot Q 0.53 (mm)
CCV 280-419713/32		06/23/2018 19:41	1	06230071.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-419713/32		06/23/2018 19:41	1	06230071.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 06/27/2018 13:46Analysis Batch Number: 420253End Date: 06/27/2018 21:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-420253/3		06/27/2018 13:46	1	06270003.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-420253/3		06/27/2018 13:46	1	06270003.D	HP-Plot Q 0.53 (mm)
MB 280-420253/4		06/27/2018 14:00	1	06270004.D	Rt-Alumina KCl 0.53 (mm)
MB 280-420253/4		06/27/2018 14:00	1	06270004.D	HP-Plot Q 0.53 (mm)
LCS 280-420253/5		06/27/2018 14:15	1	06270005.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-420253/5		06/27/2018 14:15	1	06270005.D	HP-Plot Q 0.53 (mm)
LCSD 280-420253/6		06/27/2018 14:29	1	06270006.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-420253/6		06/27/2018 14:29	1	06270006.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 14:43	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 14:43	1		HP-Plot Q 0.53 (mm)
280-111018-G-5 DU		06/27/2018 14:58	1	06270008.D	Rt-Alumina KCl 0.53 (mm)
280-111018-G-5 DU		06/27/2018 14:58	1	06270008.D	HP-Plot Q 0.53 (mm)
280-111018-H-5 MS		06/27/2018 15:12	1	06270009.D	Rt-Alumina KCl 0.53 (mm)
280-111018-H-5 MS		06/27/2018 15:12	1	06270009.D	HP-Plot Q 0.53 (mm)
280-111018-H-5 MSD		06/27/2018 15:26	1	06270010.D	Rt-Alumina KCl 0.53 (mm)
280-111018-H-5 MSD		06/27/2018 15:26	1	06270010.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 15:40	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 15:40	3		HP-Plot Q 0.53 (mm)
280-110865-8 DL		06/27/2018 15:55	3	06270012.D	Rt-Alumina KCl 0.53 (mm)
280-110865-8 DL		06/27/2018 15:55	3	06270012.D	HP-Plot Q 0.53 (mm)
280-110865-9 DL		06/27/2018 16:09	36	06270013.D	Rt-Alumina KCl 0.53 (mm)
280-110865-9 DL		06/27/2018 16:09	36	06270013.D	HP-Plot Q 0.53 (mm)
280-110865-10 DL		06/27/2018 16:23	36	06270014.D	Rt-Alumina KCl 0.53 (mm)
280-110865-10 DL		06/27/2018 16:23	36	06270014.D	HP-Plot Q 0.53 (mm)
280-110865-11 DL		06/27/2018 16:37	36	06270015.D	Rt-Alumina KCl 0.53 (mm)
280-110865-11 DL		06/27/2018 16:37	36	06270015.D	HP-Plot Q 0.53 (mm)
280-110865-13 DL		06/27/2018 16:52	3	06270016.D	Rt-Alumina KCl 0.53 (mm)
280-110865-13 DL		06/27/2018 16:52	3	06270016.D	HP-Plot Q 0.53 (mm)
280-110865-17 DL		06/27/2018 17:06	18	06270017.D	Rt-Alumina KCl 0.53 (mm)
280-110865-17 DL		06/27/2018 17:06	18	06270017.D	HP-Plot Q 0.53 (mm)
280-110865-18 DL		06/27/2018 17:20	18	06270018.D	Rt-Alumina KCl 0.53 (mm)
280-110865-18 DL		06/27/2018 17:20	18	06270018.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 17:34	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 17:34	3		HP-Plot Q 0.53 (mm)
CCV 280-420253/20		06/27/2018 17:49	1	06270020.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-420253/20		06/27/2018 17:49	1	06270020.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 18:03	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 18:03	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 18:17	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 18:17	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 18:31	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 18:31	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 18:45	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 18:45	3		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 19:00	3		Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Instrument ID: VGC\_J Start Date: 06/27/2018 13:46  
Analysis Batch Number: 420253 End Date: 06/27/2018 21:49

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/27/2018 19:00	3		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 19:14	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 19:14	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 19:28	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 19:28	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 19:42	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 19:42	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 19:56	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 19:56	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 20:10	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 20:10	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/27/2018 20:25	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/27/2018 20:25	1		HP-Plot Q 0.53 (mm)
CCV 280-420253/32		06/27/2018 20:39	1		Rt-Alumina KCl 0.53 (mm)
CCV 280-420253/32		06/27/2018 20:39	1		HP-Plot Q 0.53 (mm)
CCV 280-420253/54		06/27/2018 21:49	1		Rt-Alumina KCl 0.53 (mm)
CCV 280-420253/54		06/27/2018 21:49	1		HP-Plot Q 0.53 (mm)



# GENERAL CHEMISTRY



COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG No.: \_\_\_\_\_

Project: THAN Davenport, IA - June 2018

Client Sample ID	Lab Sample ID
AFDV-126	280-110865-1
AFDV-127	280-110865-2
AFDV-128	280-110865-3
AFDV-129	280-110865-4
AFDV-118	280-110865-5
AFDV-124	280-110865-6
AFDV-131	280-110865-8
AFDV-134	280-110865-9
AFDV-132	280-110865-10
AFDV-133	280-110865-11
AFDV-108	280-110865-12
AFDV-116	280-110865-13
AFDV-125	280-110865-15
AFDV-106	280-110865-16
AFDV-119	280-110865-17
AFDV-120	280-110865-18
AFDV-110	280-110865-19
AFDV-145	280-110865-21

Comments:



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-126

Lab Sample ID: 280-110865-1

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 10:05

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	150	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	3.1	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-127

Lab Sample ID: 280-110865-2

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 10:10

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	30	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	1.8	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-128

Lab Sample ID: 280-110865-3

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 10:10

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	15	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	4.9	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-129

Lab Sample ID: 280-110865-4

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 11:35

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	0.60	1.0	0.50	mg/L	J		1	SM 4500 S2_F
16887-00-6	Chloride	8.5	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	0.068	0.50	0.042	mg/L	J		1	300.0
14808-79-8	Sulfate	7.7	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	6.5	1.0	0.16	mg/L		B	1	9060
	Alkalinity	480	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF F1	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-118

Lab Sample ID: 280-110865-5

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 11:30

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	100	15	1.3	mg/L			5	300.0
14797-55-8	Nitrate as N	ND	2.5	0.21	mg/L			5	300.0
14808-79-8	Sulfate	ND	25	1.2	mg/L			5	300.0
7440-44-0	Total Organic Carbon - Average	11	1.0	0.16	mg/L		B	1	9060
	Alkalinity	660	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.99	2.0	0.21	mg/L	J	HF	10	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-124

Lab Sample ID: 280-110865-6

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 10:10

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	0.80	1.0	0.50	mg/L	J		1	SM 4500 S2_F
16887-00-6	Chloride	35	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	ND	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	5.2	1.0	0.16	mg/L		B	1	9060
	Alkalinity	360	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.12	0.20	0.021	mg/L	J	HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-131

Lab Sample ID: 280-110865-8

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 14:50

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	6.4	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	300	15	1.3	mg/L			5	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	1.2	5.0	0.23	mg/L	J		1	300.0
7440-44-0	Total Organic Carbon - Average	17	1.0	0.16	mg/L		B	1	9060
	Alkalinity	550	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.32	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-134

Lab Sample ID: 280-110865-9

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 15:00

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	2.2	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	66	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	ND	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	5.7	1.0	0.16	mg/L		B	1	9060
	Alkalinity	490	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.054	0.20	0.021	mg/L	J	HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-132

Lab Sample ID: 280-110865-10

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 15:10

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	7.0	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	260	6.0	0.51	mg/L			2	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	ND	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	13	1.0	0.16	mg/L		B	1	9060
	Alkalinity	540	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.18	0.20	0.021	mg/L	J	HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-133

Lab Sample ID: 280-110865-11

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 15:15

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	4.6	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	270	6.0	0.51	mg/L			2	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	0.90	5.0	0.23	mg/L	J		1	300.0
7440-44-0	Total Organic Carbon - Average	13	1.0	0.16	mg/L		B	1	9060
	Alkalinity	540	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.18	0.20	0.021	mg/L	J	HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-108

Lab Sample ID: 280-110865-12

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 15:46

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	34	15	1.3	mg/L			5	300.0
14797-55-8	Nitrate as N	ND	2.5	0.21	mg/L			5	300.0
14808-79-8	Sulfate	ND	25	1.2	mg/L			5	300.0
7440-44-0	Total Organic Carbon - Average	9.8	1.0	0.16	mg/L		B	1	9060
	Alkalinity	570	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	1.1	1.0	0.11	mg/L		HF	5	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-116

Lab Sample ID: 280-110865-13

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 15:30

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	39	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	ND	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	9.5	1.0	0.16	mg/L		B	1	9060
	Alkalinity	550	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.64	0.40	0.042	mg/L		HF	2	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-125

Lab Sample ID: 280-110865-15

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 09:55

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	0.60	1.0	0.50	mg/L	J		1	SM 4500 S2_F
16887-00-6	Chloride	14	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	2.8	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	18	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	3.3	1.0	0.16	mg/L		B	1	9060
	Alkalinity	190	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-106

Lab Sample ID: 280-110865-16

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 14:34

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	33	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	150	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	3.4	1.0	0.16	mg/L		B	1	9060
	Alkalinity	410	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-119

Lab Sample ID: 280-110865-17

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 11:35

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	27	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	310	15	1.3	mg/L			5	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	63	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	15	1.0	0.16	mg/L		B	1	9060
	Alkalinity	630	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	1.2	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-120

Lab Sample ID: 280-110865-18

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 11:40

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	3.0	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	310	15	1.3	mg/L			5	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	69	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	14	1.0	0.16	mg/L		B	1	9060
	Alkalinity	640	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	1.2	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-110

Lab Sample ID: 280-110865-19

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 14:20

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	0.60	1.0	0.50	mg/L	J		1	SM 4500 S2_F
16887-00-6	Chloride	120	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	70	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	2.2	1.0	0.16	mg/L		B	1	9060
	Alkalinity	340	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-145

Lab Sample ID: 280-110865-21

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG ID.:

Matrix: Water

Date Sampled: 06/12/2018 16:45

Reporting Basis: WET

Date Received: 06/13/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	ND	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	0.043	0.50	0.042	mg/L	J		1	300.0
14808-79-8	Sulfate	ND	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	0.38	1.0	0.16	mg/L	J	B	1	9060
	Alkalinity	3.9	5.0	1.1	mg/L	J	B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Analyst: TLP Batch Start Date: 03/21/2018  
Reporting Units: mg/L Analytical Batch No.: 408588

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	14:12	Nitrate as N	3.93	4.00	98	90-110		IC ICV 5_00196
9	ICB	14:34	Nitrate as N	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Analyst: TLP Batch Start Date: 03/21/2018  
Reporting Units: mg/L Analytical Batch No.: 408589

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	14:12	Chloride	82.6	80.0	103	90-110		IC CL ICV_00014
			Sulfate	83.2	80.0	104	90-110		IC SO4 ICV_00017
9	ICB	14:34	Chloride	ND					
			Sulfate	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Analyst: CCJ Batch Start Date: 06/13/2018  
 Reporting Units: mg/L Analytical Batch No.: 418394

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	11:07	Chloride	102	100	102	90-110		IC LCS_01255
			Sulfate	102	100	102	90-110		IC LCS_01255
2	CCB	11:29	Chloride	ND					
			Sulfate	ND					
17	CCV	20:37	Chloride	103	100	103	90-110		IC LCS_01255
			Sulfate	102	100	102	90-110		IC LCS_01255
18	CCB	20:59	Chloride	ND					
			Sulfate	ND					
29	CCV	01:04	Chloride	103	100	103	90-110		IC LCS_01255
			Sulfate	103	100	103	90-110		IC LCS_01255
30	CCB	01:26	Chloride	ND					
			Sulfate	ND					
41	CCV	05:30	Chloride	102	100	102	90-110		IC LCS_01255
			Sulfate	103	100	103	90-110		IC LCS_01255
42	CCB	05:52	Chloride	ND					
			Sulfate	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Analyst: CCJ Batch Start Date: 06/13/2018  
Reporting Units: mg/L Analytical Batch No.: 418395

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	11:07	Nitrate as N	4.96	5.00	99	90-110		IC LCS_01255
2	CCB	11:29	Nitrate as N	ND					
17	CCV	20:37	Nitrate as N	4.92	5.00	98	90-110		IC LCS_01255
18	CCB	20:59	Nitrate as N	ND					
29	CCV	01:04	Nitrate as N	4.90	5.00	98	90-110		IC LCS_01255
30	CCB	01:26	Nitrate as N	ND					
41	CCV	05:30	Nitrate as N	4.82	5.00	96	90-110		IC LCS_01255
42	CCB	05:52	Nitrate as N	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Analyst: CCJ Batch Start Date: 06/21/2018  
Reporting Units: mg/L Analytical Batch No.: 419363

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	00:59	Chloride	77.9	80.0	97	90-110	IC CL	ICV_00014
			Sulfate	77.7	80.0	97	90-110	IC SO4	ICV_00017
9	ICB	01:22	Chloride	ND					
			Sulfate	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Analyst: CCJ Batch Start Date: 07/03/2018  
 Reporting Units: mg/L Analytical Batch No.: 420968

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	09:08	Chloride	97.5	100	97	90-110	IC	LCS_01273
			Sulfate	95.4	100	95	90-110	IC	LCS_01273
2	CCB	09:29	Chloride	ND					
			Sulfate	ND					
17	CCV	17:59	Chloride	97.8	100	98	90-110	IC	LCS_01273
			Sulfate	95.5	100	95	90-110	IC	LCS_01273
18	CCB	18:21	Chloride	ND					
			Sulfate	ND					
29	CCV	22:25	Chloride	98.0	100	98	90-110	IC	LCS_01273
			Sulfate	95.8	100	96	90-110	IC	LCS_01273
30	CCB	22:48	Chloride	ND					
			Sulfate	ND					
41	CCV	02:52	Chloride	98.2	100	98	90-110	IC	LCS_01273
			Sulfate	95.8	100	96	90-110	IC	LCS_01273
42	CCB	03:14	Chloride	ND					
			Sulfate	ND					
50	CCV	06:12	Chloride	98.2	100	98	90-110	IC	LCS_01273
			Sulfate	95.6	100	96	90-110	IC	LCS_01273
51	CCB	06:34	Chloride	ND					
			Sulfate	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Analyst: AlD Batch Start Date: 06/25/2018  
 Reporting Units: mg/L Analytical Batch No.: 420057

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	15:21	Total Organic Carbon - Average	21.3	20.0	106	90-110		TOC ICV Std_00033
2	ICB	15:36	Total Organic Carbon - Average	ND					
15	CCV	19:02	Total Organic Carbon - Average	23.8	25.0	95	90-110		TOC LCS Std_00041
16	CCB	19:16	Total Organic Carbon - Average	0.186				J	
27	CCV	22:10	Total Organic Carbon - Average	23.7	25.0	95	90-110		TOC LCS Std_00041
28	CCB	22:25	Total Organic Carbon - Average	0.193				J	
39	CCV	01:22	Total Organic Carbon - Average	23.9	25.0	96	90-110		TOC LCS Std_00041
40	CCB	01:39	Total Organic Carbon - Average	0.269				J	
51	CCV	04:37	Total Organic Carbon - Average	24.0	25.0	96	90-110		TOC LCS Std_00041
52	CCB	04:52	Total Organic Carbon - Average	0.241				J	
63	CCV	07:52	Total Organic Carbon - Average	24.1	25.0	96	90-110		TOC LCS Std_00041
64	CCB	08:09	Total Organic Carbon - Average	0.248				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Analyst: LPL Batch Start Date: 06/21/2018  
 Reporting Units: mg/L Analytical Batch No.: 419644

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
17	CCV	21:06	Alkalinity	200	200	100	90-110		Alk daily lcs 00749
18	CCB	21:10	Alkalinity	1.33				J	
29	CCV	22:30	Alkalinity	201	200	100	90-110		Alk daily lcs 00749
30	CCB	22:35	Alkalinity	1.62				J	
43	CCV	23:53	Alkalinity	206	200	103	90-110		Alk daily lcs 00749
44	CCB	23:58	Alkalinity	1.57				J	
55	CCV	01:19	Alkalinity	202	200	101	90-110		Alk daily lcs 00749
56	CCB	01:24	Alkalinity	1.79				J	
68	CCV	03:40	Alkalinity	208	200	104	90-110		Alk daily lcs 00749
69	CCB	03:45	Alkalinity	1.72				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
SDG No.: \_\_\_\_\_  
Analyst: IEU Batch Start Date: 06/14/2018  
Reporting Units: mg/L Analytical Batch No.: 418499

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	04:38	Ferrous Iron	1.02	1.00	102	90-110		FE ICV INT_00498
2	ICB	04:38	Ferrous Iron	ND					
17	CCV	04:38	Ferrous Iron	1.01	1.00	101	90-110		FE Cal INT_00498
18	CCB	04:38	Ferrous Iron	ND					
29	CCV	04:38	Ferrous Iron	1.02	1.00	102	90-110		FE Cal INT_00498
30	CCB	04:38	Ferrous Iron	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



3-IN  
METHOD BLANK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 418394 Date: 06/13/2018 12:58							
300.0	MB 280-418394/6	Chloride	ND		mg/L	3.0	1
300.0	MB 280-418394/6	Sulfate	ND		mg/L	5.0	1
Batch ID: 418395 Date: 06/13/2018 12:58							
300.0	MB 280-418395/6	Nitrate as N	ND		mg/L	0.50	1
Batch ID: 420968 Date: 07/03/2018 10:58							
300.0	MB 280-420968/6	Chloride	ND		mg/L	3.0	1
300.0	MB 280-420968/6	Sulfate	ND		mg/L	5.0	1
Batch ID: 420057 Date: 06/25/2018 16:08							
9060	MB 280-420057/4	Total Organic Carbon - Average	0.300	J	mg/L	1.0	1
Batch ID: 420057 Date: 06/26/2018 00:21							
9060	MB 280-420057/35	Total Organic Carbon - Average	0.298	J	mg/L	1.0	1
Batch ID: 419644 Date: 06/21/2018 20:00							
SM 2320B	MB 280-419644/6	Alkalinity	1.37	J	mg/L	5.0	1
Batch ID: 419644 Date: 06/21/2018 22:47							
SM 2320B	MB 280-419644/32	Alkalinity	1.71	J	mg/L	5.0	1
Batch ID: 419644 Date: 06/22/2018 01:34							
SM 2320B	MB 280-419644/58	Alkalinity	1.76	J	mg/L	5.0	1
Batch ID: 418515 Date: 06/14/2018 06:51							
SM 4500 S2 F	MB 280-418515/1	Sulfide	ND		mg/L	1.0	1
Batch ID: 418499 Date: 06/14/2018 04:38							
SM3500_FE_D	MB 280-418499/5	Ferrous Iron	ND		mg/L	0.20	1



5-IN  
MATRIX SPIKE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418394 Date: 06/13/2018 17:39											
300.0	280-110865-15	Chloride	14		mg/L						
300.0	280-110865-15	Chloride	40.5		mg/L	25.0	104	80-120			
	MS										
300.0	280-110865-15	Sulfate	18		mg/L						
300.0	280-110865-15	Sulfate	43.3		mg/L	25.0	101	80-120			
	MS										
Batch ID: 418395 Date: 06/13/2018 17:39											
300.0	280-110865-15	Nitrate as N	2.8		mg/L						
300.0	280-110865-15	Nitrate as N	7.69		mg/L	5.00	97	80-120			
	MS										
Batch ID: 418394 Date: 06/13/2018 23:35											
300.0	280-110865-11	Chloride	270		mg/L						E
300.0	280-110865-11	Chloride	297		mg/L	25.0	94	80-120			E 4
	MS										
300.0	280-110865-11	Sulfate	0.90	J	mg/L						
300.0	280-110865-11	Sulfate	26.7		mg/L	25.0	103	80-120			
	MS										
Batch ID: 418395 Date: 06/13/2018 23:35											
300.0	280-110865-11	Nitrate as N	ND		mg/L						
300.0	280-110865-11	Nitrate as N	4.82		mg/L	5.00	96	80-120			
	MS										
Batch ID: 420968 Date: 07/04/2018 01:01											
300.0	280-110865-1	Chloride	150		mg/L						
300.0	280-110865-1	Chloride	179		mg/L	25.0	99	80-120			4
	MS										
300.0	280-110865-1	Sulfate	49		mg/L						
300.0	280-110865-1	Sulfate	76.7		mg/L	25.0	111	80-120			
	MS										
Batch ID: 420057 Date: 06/26/2018 02:10											
9060	280-110865-8	Total Organic Carbon - Average	17		mg/L						B
9060	280-110865-8	Total Organic Carbon - Average	41.0		mg/L	25.0	96	88-112			
	MS										
Batch ID: 420057 Date: 06/26/2018 05:25											
9060	280-110865-17	Total Organic Carbon - Average	15		mg/L						B
9060	280-110865-17	Total Organic Carbon - Average	37.8		mg/L	25.0	93	88-112			
	MS										
Batch ID: 418499 Date: 06/14/2018 04:38											
SM3500_	280-110865-4	Ferrous Iron	ND		mg/L						HF F1
FE D											
SM3500_	280-110865-4	Ferrous Iron	1.53		mg/L	2.00	77	85-113			F1
FE D	MS										
Batch ID: 418499 Date: 06/14/2018 04:38											
SM3500_	280-110865-16	Ferrous Iron	ND		mg/L						HF
FE D											
SM3500_	280-110865-16	Ferrous Iron	2.13		mg/L	2.00	106	85-113			
FE D	MS										

Calculations are performed before rounding to avoid round-off errors in calculated results.



5-IN  
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418394 Date: 06/13/2018 18:01											
300.0	280-110865-15	Chloride	40.5		mg/L	25.0	104	80-120	0	20	
	MSD										
300.0	280-110865-15	Sulfate	43.4		mg/L	25.0	101	80-120	0	20	
	MSD										
Batch ID: 418395 Date: 06/13/2018 18:01											
300.0	280-110865-15	Nitrate as N	7.70		mg/L	5.00	97	80-120	0	20	
	MSD										
Batch ID: 418394 Date: 06/13/2018 23:57											
300.0	280-110865-11	Chloride	298		mg/L	25.0	98	80-120	0	20	E 4
	MSD										
300.0	280-110865-11	Sulfate	26.7		mg/L	25.0	103	80-120	0	20	
	MSD										
Batch ID: 418395 Date: 06/13/2018 23:57											
300.0	280-110865-11	Nitrate as N	4.91		mg/L	5.00	98	80-120	2	20	
	MSD										
Batch ID: 420968 Date: 07/04/2018 01:23											
300.0	280-110865-1	Chloride	179		mg/L	25.0	100	80-120	0	20	4
	MSD										
300.0	280-110865-1	Sulfate	74.2		mg/L	25.0	101	80-120	3	20	
	MSD										
Batch ID: 420057 Date: 06/26/2018 02:25											
9060	280-110865-8	Total Organic Carbon - Average	41.3		mg/L	25.0	97	88-112	1	15	
	MSD										
Batch ID: 420057 Date: 06/26/2018 05:42											
9060	280-110865-17	Total Organic Carbon - Average	38.4		mg/L	25.0	95	88-112	2	15	
	MSD										
Batch ID: 418499 Date: 06/14/2018 04:38											
SM3500_	280-110865-4	Ferrous Iron	1.53		mg/L	2.00	76	85-113	0	10	F1
FE D	MSD										
Batch ID: 418499 Date: 06/14/2018 04:38											
SM3500_	280-110865-16	Ferrous Iron	2.06		mg/L	2.00	103	85-113	3	10	
FE D	MSD										

Calculations are performed before rounding to avoid round-off errors in calculated results.



6-IN  
DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 418394 Date: 06/13/2018 17:17								
300.0	AFDV-125	280-110865-15	Chloride	14	mg/L			
300.0	AFDV-125	280-110865-15 DU	Chloride	14.6	mg/L	0.6	15	
300.0	AFDV-125	280-110865-15	Sulfate	18	mg/L			
300.0	AFDV-125	280-110865-15 DU	Sulfate	17.2	mg/L	5	15	
Batch ID: 418395 Date: 06/13/2018 17:17								
300.0	AFDV-125	280-110865-15	Nitrate as N	2.8	mg/L			
300.0	AFDV-125	280-110865-15 DU	Nitrate as N	2.83	mg/L	0.5	15	
Batch ID: 418394 Date: 06/13/2018 23:13								
300.0	AFDV-133	280-110865-11	Chloride	270	mg/L			
300.0	AFDV-133	280-110865-11 DU	Chloride	274	mg/L	0.2	15	E
300.0	AFDV-133	280-110865-11	Sulfate	0.90	mg/L			J
300.0	AFDV-133	280-110865-11 DU	Sulfate	0.920	mg/L	3	15	J
Batch ID: 418395 Date: 06/13/2018 23:13								
300.0	AFDV-133	280-110865-11	Nitrate as N	ND	mg/L			
300.0	AFDV-133	280-110865-11 DU	Nitrate as N	ND	mg/L	NC	15	
Batch ID: 420968 Date: 07/04/2018 00:39								
300.0	AFDV-126	280-110865-1	Chloride	150	mg/L			
300.0	AFDV-126	280-110865-1 DU	Chloride	154	mg/L	0.07	15	
300.0	AFDV-126	280-110865-1	Sulfate	49	mg/L			
300.0	AFDV-126	280-110865-1 DU	Sulfate	51.2	mg/L	5	15	
Batch ID: 419644 Date: 06/22/2018 01:51								
SM 2320B	AFDV-119	280-110865-17	Alkalinity	630	mg/L			
SM 2320B	AFDV-119	280-110865-17 DU	Alkalinity	633	mg/L	0	10	
Batch ID: 418499 Date: 06/14/2018 04:38								
SM3500_FE_D	AFDV-129	280-110865-4	Ferrous Iron	ND	mg/L			
SM3500_FE_D	AFDV-129	280-110865-4 DU	Ferrous Iron	ND	mg/L	NC	10	
Batch ID: 418499 Date: 06/14/2018 04:38								
SM3500_FE_D	AFDV-106	280-110865-16	Ferrous Iron	ND	mg/L			
SM3500_FE_D	AFDV-106	280-110865-16 DU	Ferrous Iron	ND	mg/L	NC	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
LAB CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418394 Date: 06/13/2018 12:13											
						LCS Source: IC LCS_01255					
300.0	LCS	Chloride	102		mg/L	100	102	90-110	0	10	
	280-418394/4										
300.0	LCS	Sulfate	102		mg/L	100	102	90-110	0	10	
	280-418394/4										
Batch ID: 418395 Date: 06/13/2018 12:13											
						LCS Source: IC LCS_01255					
300.0	LCS	Nitrate as N	4.86		mg/L	5.00	97	90-110	0	10	
	280-418395/4										
Batch ID: 420968 Date: 07/03/2018 10:14											
						LCS Source: IC LCS_01273					
300.0	LCS	Chloride	97.8		mg/L	100	98	90-110	0	10	
	280-420968/4										
300.0	LCS	Sulfate	95.3		mg/L	100	95	90-110	0	10	
	280-420968/4										
Batch ID: 420057 Date: 06/25/2018 15:53											
						LCS Source: TOC LCS Std_00041					
9060	LCS	Total Organic Carbon - Average	23.9		mg/L	25.0	96	88-112			
	280-420057/3										
Batch ID: 420057 Date: 06/26/2018 00:06											
						LCS Source: TOC LCS Std_00041					
9060	LCS	Total Organic Carbon - Average	23.9		mg/L	25.0	96	88-112			
	280-420057/34										
Batch ID: 419644 Date: 06/21/2018 19:48											
						LCS Source: Alk daily lcs_00749					
SM	LCS	Alkalinity	199		mg/L	200	100	90-110	1	10	
2320B	280-419644/4										
Batch ID: 419644 Date: 06/21/2018 22:43											
						LCS Source: Alk daily lcs_00749					
SM	LCS	Alkalinity	205		mg/L	200	103	90-110			
2320B	280-419644/31										
Batch ID: 419644 Date: 06/22/2018 01:30											
						LCS Source: Alk daily lcs_00749					
SM	LCS	Alkalinity	200		mg/L	200	100	90-110			
2320B	280-419644/57										
Batch ID: 418515 Date: 06/14/2018 06:51											
						LCS Source: SFD CAL INT_01498					
SM 4500	LCS	Sulfide	28.2		mg/L	27.4	103	90-110	1	10	
S2 F	280-418515/2										
Batch ID: 418499 Date: 06/14/2018 04:38											
						LCS Source: FE ICV INT_00498					
SM3500_	LCS	Ferrous Iron	2.11		mg/L	2.00	105	85-113	0	10	
FE D	280-418499/3										

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
LAB CONTROL SAMPLE DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418394 Date: 06/13/2018 12:36											
						LCSD Source: IC LCS_01255					
300.0	LCSD	Chloride	102		mg/L	100	102	90-110	0	10	
	280-418394/5										
300.0	LCSD	Sulfate	102		mg/L	100	102	90-110	0	10	
	280-418394/5										
Batch ID: 418395 Date: 06/13/2018 12:36											
						LCSD Source: IC LCS_01255					
300.0	LCSD	Nitrate as N	4.87		mg/L	5.00	97	90-110	0	10	
	280-418395/5										
Batch ID: 420968 Date: 07/03/2018 10:36											
						LCSD Source: IC LCS_01273					
300.0	LCSD	Chloride	97.7		mg/L	100	98	90-110	0	10	
	280-420968/5										
300.0	LCSD	Sulfate	95.3		mg/L	100	95	90-110	0	10	
	280-420968/5										
Batch ID: 419644 Date: 06/21/2018 19:55											
						LCSD Source: Alk daily lcs_00749					
SM	LCSD	Alkalinity	197		mg/L	200	98	90-110	1	10	
2320B	280-419644/5										
Batch ID: 418515 Date: 06/14/2018 06:51											
						LCSD Source: SFD CAL INT_01498					
SM 4500	LCSD	Sulfide	28.0		mg/L	27.4	102	90-110	1	10	
S2 F	280-418515/3										
Batch ID: 418499 Date: 06/14/2018 04:38											
						LCSD Source: FE ICV INT_00498					
SM3500_	LCSD	Ferrous Iron	2.11		mg/L	2.00	105	85-113	0	10	
FE D	280-418499/4										

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
METHOD REPORTING LIMIT CHECK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418394 Date: 06/13/2018 11:51											
						LCS Source: IC CAL cl/so4_00203					
300.0	MRL 280-418394/3	Chloride	2.50	J	mg/L	2.50	100	50-150			
300.0	MRL 280-418394/3	Sulfate	2.42	J	mg/L	2.50	97	50-150			
Batch ID: 418395 Date: 06/13/2018 11:51											
						LCS Source: IC Cal low_00376					
300.0	MRL 280-418395/3	Nitrate as N	0.193	J	mg/L	0.200	96	50-150			
Batch ID: 420968 Date: 07/03/2018 09:51											
						LCS Source: IC CAL cl/so4_00206					
300.0	MRL 280-420968/3	Chloride	2.51	J	mg/L	2.50	100	50-150			
300.0	MRL 280-420968/3	Sulfate	2.15	J	mg/L	2.50	86	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: NOEQUIP

Method: SM 4500 S2 F

MDL Date: 03/12/2010 15:52

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfide		1	0.495



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110865-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: NOEQUIP  
Method: SM 4500 S2 F XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		1	0.495



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom12

Method: 300.0

MDL Date: 03/23/2010 16:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110865-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom12  
Method: 300.0 MDL Date: 03/28/2011 13:33

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate as N		0.5	0.042



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom12

Method: 300.0

XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom12

Method: 300.0

XMDL Date: 03/28/2011 13:33

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate as N		0.5	0.0425



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_SHI3

Method: 9060

MDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon - Average		1	0.155



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_SHI3

Method: 9060

XMDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon - Average		1	0.155



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110865-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC-AT3  
Method: SM 2320B MDL Date: 03/28/2011 12:06

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		5	1.07



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC-AT3

Method: SM 2320B

XMDL Date: 03/28/2011 12:06

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	1.07



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110865-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_HACH SPEC  
Method: SM3500\_FE\_D MDL Date: 03/28/2011 12:11

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ferrous Iron		0.2	0.021



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110865-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_HACH SPEC

Method: SM3500\_FE\_D

XMDL Date: 03/28/2011 12:11

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ferrous Iron		0.2	0.0207



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: NOEQUIP Analysis Method: SM 4500 S2 F  
 Start Date: 06/14/2018 06:51 End Date: 06/14/2018 06:51

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				S 2																									
MB 280-418515/1	1	T	06:51	X																									
LCS 280-418515/2	1	T	06:51	X																									
LCSD 280-418515/3	1	T	06:51	X																									
280-110865-4	1	T	06:51	X																									
280-110865-5	1	T	06:51	X																									
280-110865-6	1	T	06:51	X																									
280-110865-8	1	T	06:51	X																									
280-110865-9	1	T	06:51	X																									
280-110865-10	1	T	06:51	X																									
280-110865-11	1	T	06:51	X																									
280-110865-12	1	T	06:51	X																									
280-110865-13	1	T	06:51	X																									
280-110865-15	1	T	06:51	X																									
280-110865-16	1	T	06:51	X																									
280-110865-17	1	T	06:51	X																									
280-110865-18	1	T	06:51	X																									
280-110865-19	1	T	06:51	X																									
280-110865-21	1	T	06:51	X																									

Prep Types: \_\_\_\_\_  
 T = Total/NA



Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Instrument ID: <u>WC_IonChrom12</u>	Analysis Method: <u>300.0</u>
Start Date: <u>03/21/2018 11:37</u>	End Date: <u>03/22/2018 08:27</u>

Page 612 of 655



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12 Analysis Method: 300.0

Start Date: 03/21/2018 11:37 End Date: 03/22/2018 08:27

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				N O 3																									
ZZZZZZ			05:30																										
ZZZZZZ			05:52																										
ZZZZZZ			06:14																										
ZZZZZZ			06:36																										
CCV 280-408588/46			06:58																										
CCB 280-408588/47			07:21																										
ZZZZZZ			07:43																										
CCV 280-408588/49			08:05																										
CCB 280-408588/50			08:27																										

Prep Types: \_\_\_\_\_  
=



Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110865-1</u>
SDG No.: _____	
Instrument ID: <u>WC_IonChrom12</u>	Analysis Method: <u>300.0</u>
Start Date: <u>03/21/2018 11:37</u>	End Date: <u>03/22/2018 08:27</u>

Page 614 of 655



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12 Analysis Method: 300.0

Start Date: 03/21/2018 11:37 End Date: 03/22/2018 08:27

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
ZZZZZZ			05:30																										
ZZZZZZ			05:52																										
ZZZZZZ			06:14																										
ZZZZZZ			06:36																										
CCV 280-408589/46			06:58																										
CCB 280-408589/47			07:21																										
ZZZZZZ			07:43																										
CCV 280-408589/49			08:05																										
CCB 280-408589/50			08:27																										

Prep Types: \_\_\_\_\_  
=



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12

Analysis Method: 300.0

Start Date: 06/13/2018 11:07

End Date: 06/14/2018 05:52

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
CCV 280-418394/1	1		11:07	X	X																								
CCB 280-418394/2	1		11:29	X	X																								
MRL 280-418394/3	1	T	11:51	X	X																								
LCS 280-418394/4	1	T	12:13	X	X																								
LCSD 280-418394/5	1	T	12:36	X	X																								
MB 280-418394/6	1	T	12:58	X	X																								
280-110865-15	1	T	16:55	X	X																								
280-110865-15 DU	1	T	17:17	X	X																								
280-110865-15 MS	1	T	17:39	X	X																								
280-110865-15 MSD	1	T	18:01	X	X																								
280-110865-6	1	T	18:24	X	X																								
280-110865-5	5	T	18:46	X	X																								
280-110865-4	1	T	19:08	X	X																								
280-110865-17	1	T	19:30		X																								
280-110865-18	1	T	19:53		X																								
280-110865-19	1	T	20:15	X	X																								
CCV 280-418394/17	1		20:37	X	X																								
CCB 280-418394/18	1		20:59	X	X																								
280-110865-16	1	T	21:21	X	X																								
280-110865-8	1	T	21:44		X																								
280-110865-9	1	T	22:06	X	X																								
280-110865-10	1	T	22:28		X																								
280-110865-11	1	T	22:50		X																								
280-110865-11 DU	1	T	23:13	X	X																								
280-110865-11 MS	1	T	23:35	X	X																								
280-110865-11 MSD	1	T	23:57	X	X																								
280-110865-13	1	T	00:19	X	X																								
280-110865-12	5	T	00:41	X	X																								
CCV 280-418394/29	1		01:04	X	X																								
CCB 280-418394/30	1		01:26	X	X																								
280-110865-21	1	T	01:48	X	X																								
ZZZZZZ			02:10																										
ZZZZZZ			02:33																										
ZZZZZZ			02:55																										
ZZZZZZ			03:17																										
ZZZZZZ			03:39																										
ZZZZZZ			04:01																										
280-110865-17	5	T	04:46	X																									
280-110865-18	5	T	05:08	X																									
CCV 280-418394/41	1		05:30	X	X																								
CCB 280-418394/42	1		05:52	X	X																								



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12 Analysis Method: 300.0

Start Date: 06/13/2018 11:07 End Date: 06/14/2018 05:52

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								

Prep Types: \_\_\_\_\_

T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12

Analysis Method: 300.0

Start Date: 06/13/2018 11:07

End Date: 06/14/2018 05:52

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				N O 3																									
CCV 280-418395/1	1		11:07	X																									
CCB 280-418395/2	1		11:29	X																									
MRL 280-418395/3	1	T	11:51	X																									
LCS 280-418395/4	1	T	12:13	X																									
LCSD 280-418395/5	1	T	12:36	X																									
MB 280-418395/6	1	T	12:58	X																									
280-110865-15	1	T	16:55	X																									
280-110865-15 DU	1	T	17:17	X																									
280-110865-15 MS	1	T	17:39	X																									
280-110865-15 MSD	1	T	18:01	X																									
280-110865-6	1	T	18:24	X																									
280-110865-5	5	T	18:46	X																									
280-110865-4	1	T	19:08	X																									
280-110865-17	1	T	19:30	X																									
280-110865-18	1	T	19:53	X																									
280-110865-19	1	T	20:15	X																									
CCV 280-418395/17	1		20:37	X																									
CCB 280-418395/18	1		20:59	X																									
280-110865-16	1	T	21:21	X																									
280-110865-8	1	T	21:44	X																									
280-110865-9	1	T	22:06	X																									
280-110865-10	1	T	22:28	X																									
280-110865-11	1	T	22:50	X																									
280-110865-11 DU	1	T	23:13	X																									
280-110865-11 MS	1	T	23:35	X																									
280-110865-11 MSD	1	T	23:57	X																									
280-110865-13	1	T	00:19	X																									
280-110865-12	5	T	00:41	X																									
CCV 280-418395/29	1		01:04	X																									
CCB 280-418395/30	1		01:26	X																									
280-110865-21	1	T	01:48	X																									
ZZZZZZ			02:10																										
ZZZZZZ			02:33																										
ZZZZZZ			02:55																										
ZZZZZZ			03:17																										
ZZZZZZ			03:39																										
ZZZZZZ			04:01																										
ZZZZZZ			04:24																										
ZZZZZZ			04:46																										
ZZZZZZ			05:08																										
CCV 280-418395/41	1		05:30	X																									



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12 Analysis Method: 300.0

Start Date: 06/13/2018 11:07 End Date: 06/14/2018 05:52

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				N O 3																									
CCB 280-418395/42	1		05:52	X																									

Prep Types: \_\_\_\_\_  
T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom12 Analysis Method: 300.0  
 Start Date: 06/20/2018 22:25 End Date: 06/21/2018 05:48

Lab Sample Id	D/F	T Y P e	Time	Analytes																									
				C L -	S O 4																								
RTC 280-419363/1			22:25																										
STD 280-419363/2 IC	1		22:46	X	X																								
STD 280-419363/3 IC	1		23:08	X	X																								
STD 280-419363/4 IC	1		23:31	X	X																								
STD 280-419363/5 IC	1		23:53	X	X																								
STD 280-419363/6 IC	1		00:15	X	X																								
STD 280-419363/7 IC	1		00:37	X	X																								
ICV 280-419363/8	1		00:59	X	X																								
ICB 280-419363/9	1		01:22	X	X																								
ZZZZZZ			01:44																										
ZZZZZZ			02:06																										
ZZZZZZ			02:28																										
ZZZZZZ			02:51																										
ZZZZZZ			03:13																										
ZZZZZZ			03:35																										
ZZZZZZ			03:57																										
ZZZZZZ			04:19																										
ZZZZZZ			05:04																										
CCV 280-419363/20			05:26																										
CCB 280-419363/21			05:48																										

Prep Types: \_\_\_\_\_  
 =



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom12

Analysis Method: 300.0

Start Date: 07/03/2018 09:08

End Date: 07/04/2018 06:34

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
CCV 280-420968/1	1		09:08	X	X																								
CCB 280-420968/2	1		09:29	X	X																								
MRL 280-420968/3	1	T	09:51	X	X																								
LCS 280-420968/4	1	T	10:14	X	X																								
LCSD 280-420968/5	1	T	10:36	X	X																								
MB 280-420968/6	1	T	10:58	X	X																								
ZZZZZZ			14:17																										
ZZZZZZ			14:39																										
ZZZZZZ			15:01																										
ZZZZZZ			15:23																										
ZZZZZZ			15:45																										
ZZZZZZ			16:08																										
ZZZZZZ			16:30																										
ZZZZZZ			16:52																										
ZZZZZZ			17:14																										
ZZZZZZ			17:37																										
CCV 280-420968/17	1		17:59	X	X																								
CCB 280-420968/18	1		18:21	X	X																								
ZZZZZZ			18:43																										
ZZZZZZ			19:05																										
ZZZZZZ			19:28																										
ZZZZZZ			19:50																										
ZZZZZZ			20:12																										
ZZZZZZ			20:34																										
ZZZZZZ			20:57																										
ZZZZZZ			21:19																										
ZZZZZZ			21:41																										
ZZZZZZ			22:03																										
CCV 280-420968/29	1		22:25	X	X																								
CCB 280-420968/30	1		22:48	X	X																								
ZZZZZZ			23:10																										
ZZZZZZ			23:32																										
ZZZZZZ			23:54																										
280-110865-1	1	T	00:16	X																									
280-110865-1 DU	1	T	00:39	X	X																								
280-110865-1 MS	1	T	01:01	X	X																								
280-110865-1 MSD	1	T	01:23	X	X																								
280-110865-2	1	T	01:45	X																									
280-110865-3	1	T	02:08	X																									
280-110865-8	5	T	02:30	X																									
CCV 280-420968/41	1		02:52	X	X																								



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom12 Analysis Method: 300.0  
 Start Date: 07/03/2018 09:08 End Date: 07/04/2018 06:34

Lab Sample Id	D/F	T y p e	Time	Analytes																											
				C L -	S O 4																										
CCB 280-420968/42	1		03:14	X	X																										
280-110865-10	2	T	03:36	X																											
280-110865-11	2	T	03:59	X																											
ZZZZZZ			04:21																												
ZZZZZZ			04:43																												
ZZZZZZ			05:05																												
ZZZZZZ			05:28																												
ZZZZZZ			05:50																												
CCV 280-420968/50	1		06:12	X	X																										
CCB 280-420968/51	1		06:34	X	X																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI3 Analysis Method: 9060  
 Start Date: 06/25/2018 15:21 End Date: 06/26/2018 08:54

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				T O C Q																									
ICV 280-420057/1	1		15:21	X																									
ICB 280-420057/2	1		15:36	X																									
LCS 280-420057/3	1	T	15:53	X																									
MB 280-420057/4	1	T	16:08	X																									
ZZZZZZ			16:24																										
ZZZZZZ			16:43																										
ZZZZZZ			16:58																										
ZZZZZZ			17:12																										
ZZZZZZ			17:27																										
ZZZZZZ			17:44																										
ZZZZZZ			18:01																										
ZZZZZZ			18:15																										
ZZZZZZ			18:30																										
ZZZZZZ			18:45																										
CCV 280-420057/15	1		19:02	X																									
CCB 280-420057/16	1		19:16	X																									
ZZZZZZ			19:31																										
ZZZZZZ			19:46																										
ZZZZZZ			20:00																										
ZZZZZZ			20:15																										
ZZZZZZ			20:30																										
ZZZZZZ			20:45																										
ZZZZZZ			21:01																										
ZZZZZZ			21:18																										
ZZZZZZ			21:37																										
ZZZZZZ			21:56																										
CCV 280-420057/27	1		22:10	X																									
CCB 280-420057/28	1		22:25	X																									
ZZZZZZ			22:42																										
ZZZZZZ			22:59																										
ZZZZZZ			23:15																										
280-110865-1	1	T	23:33	X																									
280-110865-2	1	T	23:49	X																									
LCS 280-420057/34	1	T	00:06	X																									
MB 280-420057/35	1	T	00:21	X																									
ZZZZZZ			00:38																										
280-110865-3	1	T	00:52	X																									
280-110865-4	1	T	01:07	X																									
CCV 280-420057/39	1		01:22	X																									
CCB 280-420057/40	1		01:39	X																									



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI3 Analysis Method: 9060  
 Start Date: 06/25/2018 15:21 End Date: 06/26/2018 08:54

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				T O C Q																									
280-110865-8	1	T	01:55	X																									
280-110865-8 MS	1	T	02:10	X																									
280-110865-8 MSD	1	T	02:25	X																									
280-110865-9	1	T	02:40	X																									
280-110865-5	1	T	02:56	X																									
280-110865-6	1	T	03:15	X																									
280-110865-10	1	T	03:30	X																									
280-110865-11	1	T	03:47	X																									
280-110865-12	1	T	04:03	X																									
280-110865-13	1	T	04:20	X																									
CCV 280-420057/51	1		04:37	X																									
CCB 280-420057/52	1		04:52	X																									
280-110865-17	1	T	05:10	X																									
280-110865-17 MS	1	T	05:25	X																									
280-110865-17 MSD	1	T	05:42	X																									
280-110865-18	1	T	05:59	X																									
280-110865-15	1	T	06:13	X																									
280-110865-16	1	T	06:32	X																									
280-110865-19	1	T	06:51	X																									
280-110865-21	1	T	07:06	X																									
ZZZZZZ			07:23																										
ZZZZZZ			07:37																										
CCV 280-420057/63	1		07:52	X																									
CCB 280-420057/64	1		08:09	X																									
ZZZZZZ			08:24																										
CCV 280-420057/66			08:39																										
CCB 280-420057/67			08:54																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Instrument ID: WC-AT3

Analysis Method: SM 2320B

Start Date: 06/21/2018 19:22

End Date: 06/22/2018 03:45

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				A l k																									
RINSE 280-419644/1			19:22																										
ZZZZZZ			19:35																										
ZZZZZZ			19:41																										
LCS 280-419644/4	1	T	19:48	X																									
LCSD 280-419644/5	1	T	19:55	X																									
MB 280-419644/6	1	T	20:00	X																									
ZZZZZZ			20:08																										
ZZZZZZ			20:15																										
ZZZZZZ			20:21																										
ZZZZZZ			20:26																										
ZZZZZZ			20:31																										
ZZZZZZ			20:37																										
ZZZZZZ			20:43																										
ZZZZZZ			20:48																										
ZZZZZZ			20:54																										
ZZZZZZ			21:00																										
CCV 280-419644/17	1		21:06	X																									
CCB 280-419644/18	1		21:10	X																									
ZZZZZZ			21:15																										
ZZZZZZ			21:21																										
ZZZZZZ			21:31																										
ZZZZZZ			21:41																										
ZZZZZZ			21:47																										
ZZZZZZ			21:57																										
ZZZZZZ			22:03																										
ZZZZZZ			22:10																										
ZZZZZZ			22:18																										
ZZZZZZ			22:24																										
CCV 280-419644/29	1		22:30	X																									
CCB 280-419644/30	1		22:35	X																									
LCS 280-419644/31	1	T	22:43	X																									
MB 280-419644/32	1	T	22:47	X																									
ZZZZZZ			22:55																										
ZZZZZZ			23:02																										
ZZZZZZ			23:09																										
ZZZZZZ			23:14																										
ZZZZZZ			23:19																										
ZZZZZZ			23:24																										
ZZZZZZ			23:29																										
ZZZZZZ			23:34																										
ZZZZZZ			23:39																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC-AT3 Analysis Method: SM 2320B  
 Start Date: 06/21/2018 19:22 End Date: 06/22/2018 03:45

Lab Sample Id	D/F	T y p e	Time	Analytes																											
				A l k																											
280-110865-4	1	T	23:47	X																											
CCV 280-419644/43	1		23:53	X																											
CCB 280-419644/44	1		23:58	X																											
280-110865-5	1	T	00:07	X																											
280-110865-6	1	T	00:13	X																											
280-110865-8	1	T	00:21	X																											
280-110865-9	1	T	00:28	X																											
280-110865-10	1	T	00:37	X																											
280-110865-11	1	T	00:44	X																											
280-110865-12	1	T	00:52	X																											
280-110865-13	1	T	01:00	X																											
280-110865-15	1	T	01:06	X																											
280-110865-16	1	T	01:13	X																											
CCV 280-419644/55	1		01:19	X																											
CCB 280-419644/56	1		01:24	X																											
LCS 280-419644/57	1	T	01:30	X																											
MB 280-419644/58	1	T	01:34	X																											
280-110865-17	1	T	01:43	X																											
280-110865-17 DU	1	T	01:51	X																											
280-110865-18	1	T	01:59	X																											
280-110865-19	1	T	02:06	X																											
280-110865-21	1	T	02:12	X																											
ZZZZZZ			02:33																												
ZZZZZZ			02:55																												
ZZZZZZ			03:16																												
ZZZZZZ			03:34																												
CCV 280-419644/68	1		03:40	X																											
CCB 280-419644/69	1		03:45	X																											

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110865-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_HACH SPEC Analysis Method: SM3500\_FE\_D  
 Start Date: 06/14/2018 04:38 End Date: 06/14/2018 04:38

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				F e 2																									
ICV 280-418499/1	1		04:38	X																									
ICB 280-418499/2	1		04:38	X																									
LCS 280-418499/3	1	T	04:38	X																									
LCSD 280-418499/4	1	T	04:38	X																									
MB 280-418499/5	1	T	04:38	X																									
280-110865-4	1	T	04:38	X																									
280-110865-4 DU	1	T	04:38	X																									
280-110865-4 MS	1	T	04:38	X																									
280-110865-4 MSD	1	T	04:38	X																									
280-110865-5	10	T	04:38	X																									
280-110865-6	1	T	04:38	X																									
280-110865-8	1	T	04:38	X																									
280-110865-9	1	T	04:38	X																									
280-110865-10	1	T	04:38	X																									
280-110865-11	1	T	04:38	X																									
280-110865-12	5	T	04:38	X																									
CCV 280-418499/17	1		04:38	X																									
CCB 280-418499/18	1		04:38	X																									
280-110865-13	2	T	04:38	X																									
280-110865-15	1	T	04:38	X																									
280-110865-16	1	T	04:38	X																									
280-110865-16 DU	1	T	04:38	X																									
280-110865-16 MS	1	T	04:38	X																									
280-110865-16 MSD	1	T	04:38	X																									
280-110865-17	1	T	04:38	X																									
280-110865-18	1	T	04:38	X																									
280-110865-19	1	T	04:38	X																									
280-110865-21	1	T	04:38	X																									
CCV 280-418499/29	1		04:38	X																									
CCB 280-418499/30	1		04:38	X																									

Prep Types: \_\_\_\_\_  
 T = Total/NA



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418515 Batch Start Date: 06/14/18 06:50 Batch Analyst: Weigand, Adam WBatch Method: SM 4500 S2 F Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStart1	BuretStop1	IodineAmount	TitrantVolume1	InitialAmount	FinalAmount
MB 280-418515/1		SM 4500 S2 F		0.00 mL	5.00 mL	5 mL	5 mL	200 mL	200 mL
LCS 280-418515/2		SM 4500 S2 F		5.00 mL	10.90 mL	20 mL	5.9 mL	200 mL	200 mL
LCSD 280-418515/3		SM 4500 S2 F		10.90 mL	16.90 mL	20 mL	6 mL	200 mL	200 mL
280-110865-B-4	AFDV-129	SM 4500 S2 F	T	0.00 mL	4.70 mL	5 mL	4.7 mL	200 mL	200 mL
280-110865-B-5	AFDV-118	SM 4500 S2 F	T	4.70 mL	9.80 mL	5 mL	5.1 mL	200 mL	200 mL
280-110865-B-6	AFDV-124	SM 4500 S2 F	T	9.80 mL	14.40 mL	5 mL	4.6 mL	200 mL	200 mL
280-110865-B-8	AFDV-131	SM 4500 S2 F	T	14.40 mL	16.20 mL	5 mL	1.8 mL	200 mL	200 mL
280-110865-B-9	AFDV-134	SM 4500 S2 F	T	16.20 mL	20.10 mL	5 mL	3.9 mL	200 mL	200 mL
280-110865-B-10	AFDV-132	SM 4500 S2 F	T	20.10 mL	21.60 mL	5 mL	1.5 mL	200 mL	200 mL
280-110865-B-11	AFDV-133	SM 4500 S2 F	T	21.60 mL	24.30 mL	5 mL	2.7 mL	200 mL	200 mL
280-110865-B-12	AFDV-108	SM 4500 S2 F	T	24.30 mL	29.20 mL	5 mL	4.9 mL	200 mL	200 mL
280-110865-B-13	AFDV-116	SM 4500 S2 F	T	29.20 mL	34.10 mL	5 mL	4.9 mL	200 mL	200 mL
280-110865-B-15	AFDV-125	SM 4500 S2 F	T	34.10 mL	38.80 mL	5 mL	4.7 mL	200 mL	200 mL
280-110865-B-16	AFDV-106	SM 4500 S2 F	T	38.80 mL	43.60 mL	5 mL	4.8 mL	200 mL	200 mL
280-110865-B-17	AFDV-119	SM 4500 S2 F	T	25.00 mL	31.50 mL	20 mL	6.5 mL	200 mL	200 mL
280-110865-B-18	AFDV-120	SM 4500 S2 F	T	31.50 mL	35.00 mL	5 mL	3.5 mL	200 mL	200 mL
280-110865-B-19	AFDV-110	SM 4500 S2 F	T	35.00 mL	39.70 mL	5 mL	4.7 mL	200 mL	200 mL
280-110865-B-21	AFDV-145	SM 4500 S2 F	T	39.70 mL	44.50 mL	5 mL	4.8 mL	200 mL	200 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	SFD CAL INT 01498	AnalysisComment				
MB 280-418515/1		SM 4500 S2 F							
LCS 280-418515/2		SM 4500 S2 F		5 mL					
LCSD 280-418515/3		SM 4500 S2 F		5 mL					
280-110865-B-4	AFDV-129	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-5	AFDV-118	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-6	AFDV-124	SM 4500 S2 F	T		4mL HCL Sol added				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 4500 S2 F

Page 1 of 3



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418515 Batch Start Date: 06/14/18 06:50 Batch Analyst: Weigand, Adam WBatch Method: SM 4500 S2 F Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	SFD CAL INT 01498	AnalysisComment				
280-110865-B-8	AFDV-131	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-9	AFDV-134	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-10	AFDV-132	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-11	AFDV-133	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-12	AFDV-108	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-13	AFDV-116	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-15	AFDV-125	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-16	AFDV-106	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-17	AFDV-119	SM 4500 S2 F	T		4mL HCL Sol added/20mL Iodine needed for color change				
280-110865-B-18	AFDV-120	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-19	AFDV-110	SM 4500 S2 F	T		4mL HCL Sol added				
280-110865-B-21	AFDV-145	SM 4500 S2 F	T		4mL HCL Sol added				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418515 Batch Start Date: 06/14/18 06:50 Batch Analyst: Weigand, Adam WBatch Method: SM 4500 S2 F Batch End Date: \_\_\_\_\_

Batch Notes	
Batch Comment	AW
Hydrochloric Acid ID	HCL Sol_00154
Iodine ID	Iod_00199
Normality of Iodine Solution	0.0250 N
Sodium Thiosulfate ID	Na Thio_00131
Nominal Amount Used	200 mL
Pipette/Syringe/Dispenser ID	AZ1000, AZ5000
Starch Reagent ID	Starch Ind_00048
Normality of First Titrant	0.0250 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 4500 S2 F

Page 3 of 3



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 408588 Batch Start Date: 03/21/18 11:37 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00191	IC Cal low 00355	IC CL ICV 00014	IC ICV 5 00196
STD 280-408588/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-408588/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-408588/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-408588/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-408588/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-408588/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		
ICV 280-408588/8		300.0		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-408588/9		300.0		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-408588/2 IC		300.0							
STD 280-408588/3 IC		300.0							
STD 280-408588/4 IC		300.0							
STD 280-408588/5 IC		300.0							
STD 280-408588/6 IC		300.0							
STD 280-408588/7 IC		300.0							
ICV 280-408588/8		300.0		0.4 mL					
ICB 280-408588/9		300.0							

Batch Notes	
Pipette/Syringe/Dispenser ID	5000ics, 1000d, 100c
Regeneration Solution ID	170602957012

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 408588 Batch Start Date: 03/21/18 11:37 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 408589 Batch Start Date: 03/21/18 11:37 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00191	IC Cal low 00355	IC CL ICV 00014	IC ICV 5 00196
STD 280-408589/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-408589/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-408589/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-408589/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-408589/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-408589/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		
ICV 280-408589/8		300.0		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-408589/9		300.0		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-408589/2 IC		300.0							
STD 280-408589/3 IC		300.0							
STD 280-408589/4 IC		300.0							
STD 280-408589/5 IC		300.0							
STD 280-408589/6 IC		300.0							
STD 280-408589/7 IC		300.0							
ICV 280-408589/8		300.0		0.4 mL					
ICB 280-408589/9		300.0							

Batch Notes	
Pipette/Syringe/Dispenser ID	5000ics, 1000d, 100c
Regeneration Solution ID	170602957012

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 408589 Batch Start Date: 03/21/18 11:37 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418394 Batch Start Date: 06/13/18 11:07 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00203	IC Cal low 00376	IC LCS 01255	ICMS/MSD WEEK 00537
CCV 280-418394/1		300.0		5 mL	5 mL			5 mL	
CCB 280-418394/2		300.0		5 mL	5 mL				
MRL 280-418394/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-418394/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-418394/5		300.0		5 mL	5 mL			5 mL	
MB 280-418394/6		300.0		5 mL	5 mL				
280-110865-C-15	AFDV-125	300.0	T	5 mL	5 mL				
280-110865-C-15 DU	AFDV-125	300.0	T	5 mL	5 mL				
280-110865-C-15 MS	AFDV-125	300.0	T	5 mL	5 mL				0.05 mL
280-110865-C-15 MSD	AFDV-125	300.0	T	5 mL	5 mL				0.05 mL
280-110865-C-6	AFDV-124	300.0	T	5 mL	5 mL				
280-110865-C-5	AFDV-118	300.0	T	5 mL	5 mL				
280-110865-C-4	AFDV-129	300.0	T	5 mL	5 mL				
280-110865-C-17	AFDV-119	300.0	T	5 mL	5 mL				
280-110865-C-18	AFDV-120	300.0	T	5 mL	5 mL				
280-110865-C-19	AFDV-110	300.0	T	5 mL	5 mL				
CCV 280-418394/17		300.0		5 mL	5 mL			5 mL	
CCB 280-418394/18		300.0		5 mL	5 mL				
280-110865-C-16	AFDV-106	300.0	T	5 mL	5 mL				
280-110865-C-8	AFDV-131	300.0	T	5 mL	5 mL				
280-110865-C-9	AFDV-134	300.0	T	5 mL	5 mL				
280-110865-C-10	AFDV-132	300.0	T	5 mL	5 mL				
280-110865-C-11	AFDV-133	300.0	T	5 mL	5 mL				
280-110865-C-11 DU	AFDV-133	300.0	T	5 mL	5 mL				
280-110865-C-11 MS	AFDV-133	300.0	T	5 mL	5 mL				0.05 mL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418394 Batch Start Date: 06/13/18 11:07 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00203	IC Cal low 00376	IC LCS 01255	ICMS/MSD WEEK 00537
280-110865-C-11 MSD	AFDV-133	300.0	T	5 mL	5 mL				0.05 mL
280-110865-C-13	AFDV-116	300.0	T	5 mL	5 mL				
280-110865-C-12	AFDV-108	300.0	T	5 mL	5 mL				
CCV 280-418394/29		300.0		5 mL	5 mL			5 mL	
CCB 280-418394/30		300.0		5 mL	5 mL				
280-110865-C-21	AFDV-145	300.0	T	5 mL	5 mL				
280-110865-C-17	AFDV-119	300.0	T	5 mL	5 mL				
280-110865-C-18	AFDV-120	300.0	T	5 mL	5 mL				
CCV 280-418394/41		300.0		5 mL	5 mL			5 mL	
CCB 280-418394/42		300.0		5 mL	5 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	170602957012
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 2 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418395 Batch Start Date: 06/13/18 11:07 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00203	IC Cal low 00376	IC LCS 01255	ICMS/MSD WEEK 00537
CCV 280-418395/1		300.0		5 mL	5 mL			5 mL	
CCB 280-418395/2		300.0		5 mL	5 mL				
MRL 280-418395/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-418395/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-418395/5		300.0		5 mL	5 mL			5 mL	
MB 280-418395/6		300.0		5 mL	5 mL				
280-110865-C-15	AFDV-125	300.0	T	5 mL	5 mL				
280-110865-C-15 DU	AFDV-125	300.0	T	5 mL	5 mL				
280-110865-C-15 MS	AFDV-125	300.0	T	5 mL	5 mL				0.05 mL
280-110865-C-15 MSD	AFDV-125	300.0	T	5 mL	5 mL				0.05 mL
280-110865-C-6	AFDV-124	300.0	T	5 mL	5 mL				
280-110865-C-5	AFDV-118	300.0	T	5 mL	5 mL				
280-110865-C-4	AFDV-129	300.0	T	5 mL	5 mL				
280-110865-C-17	AFDV-119	300.0	T	5 mL	5 mL				
280-110865-C-18	AFDV-120	300.0	T	5 mL	5 mL				
280-110865-C-19	AFDV-110	300.0	T	5 mL	5 mL				
CCV 280-418395/17		300.0		5 mL	5 mL			5 mL	
CCB 280-418395/18		300.0		5 mL	5 mL				
280-110865-C-16	AFDV-106	300.0	T	5 mL	5 mL				
280-110865-C-8	AFDV-131	300.0	T	5 mL	5 mL				
280-110865-C-9	AFDV-134	300.0	T	5 mL	5 mL				
280-110865-C-10	AFDV-132	300.0	T	5 mL	5 mL				
280-110865-C-11	AFDV-133	300.0	T	5 mL	5 mL				
280-110865-C-11 DU	AFDV-133	300.0	T	5 mL	5 mL				
280-110865-C-11 MS	AFDV-133	300.0	T	5 mL	5 mL				0.05 mL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418395 Batch Start Date: 06/13/18 11:07 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00203	IC Cal low 00376	IC LCS 01255	ICMS/MSD WEEK 00537
280-110865-C-11 MSD	AFDV-133	300.0	T	5 mL	5 mL				0.05 mL
280-110865-C-13	AFDV-116	300.0	T	5 mL	5 mL				
280-110865-C-12	AFDV-108	300.0	T	5 mL	5 mL				
CCV 280-418395/29		300.0		5 mL	5 mL			5 mL	
CCB 280-418395/30		300.0		5 mL	5 mL				
280-110865-C-21	AFDV-145	300.0	T	5 mL	5 mL				
280-110865-C-17	AFDV-119	300.0	T	5 mL	5 mL				
280-110865-C-18	AFDV-120	300.0	T	5 mL	5 mL				
CCV 280-418395/41		300.0		5 mL	5 mL			5 mL	
CCB 280-418395/42		300.0		5 mL	5 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, w3c1000cj, wc200cj
Regeneration Solution ID	170602957012
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 2 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419363 Batch Start Date: 06/20/18 22:25 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00204	IC Cal low 00378	IC CL ICV 00014	IC ICV 5 00203
STD 280-419363/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-419363/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-419363/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-419363/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-419363/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-419363/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		
ICV 280-419363/8		300.0		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-419363/9		300.0		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-419363/2 IC		300.0							
STD 280-419363/3 IC		300.0							
STD 280-419363/4 IC		300.0							
STD 280-419363/5 IC		300.0							
STD 280-419363/6 IC		300.0							
STD 280-419363/7 IC		300.0							
ICV 280-419363/8		300.0		0.4 mL					
ICB 280-419363/9		300.0							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419363 Batch Start Date: 06/20/18 22:25 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	180501697018
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420968 Batch Start Date: 07/03/18 09:08 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00206	IC Cal low 00381	IC LCS 01273	ICMS/MSD WEEK 00540
CCV 280-420968/1		300.0		5 mL	5 mL			5 mL	
CCB 280-420968/2		300.0		5 mL	5 mL				
MRL 280-420968/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-420968/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-420968/5		300.0		5 mL	5 mL			5 mL	
MB 280-420968/6		300.0		5 mL	5 mL				
CCV 280-420968/17		300.0		5 mL	5 mL			5 mL	
CCB 280-420968/18		300.0		5 mL	5 mL				
CCV 280-420968/29		300.0		5 mL	5 mL			5 mL	
CCB 280-420968/30		300.0		5 mL	5 mL				
280-110865-B-1	AFDV-126	300.0	T	5 mL	5 mL				
280-110865-B-1 DU	AFDV-126	300.0	T	5 mL	5 mL				
280-110865-B-1 MS	AFDV-126	300.0	T	5 mL	5 mL				0.05 mL
280-110865-B-1 MSD	AFDV-126	300.0	T	5 mL	5 mL				0.05 mL
280-110865-B-2	AFDV-127	300.0	T	5 mL	5 mL				
280-110865-B-3	AFDV-128	300.0	T	5 mL	5 mL				
280-110865-C-8	AFDV-131	300.0	T	5 mL	5 mL				
CCV 280-420968/41		300.0		5 mL	5 mL			5 mL	
CCB 280-420968/42		300.0		5 mL	5 mL				
280-110865-C-10	AFDV-132	300.0	T	5 mL	5 mL				
280-110865-C-11	AFDV-133	300.0	T	5 mL	5 mL				
CCV 280-420968/50		300.0		5 mL	5 mL			5 mL	
CCB 280-420968/51		300.0		5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420968 Batch Start Date: 07/03/18 09:08 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	180501697018
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 2 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420057 Batch Start Date: 06/25/18 15:21 Batch Analyst: Duplin, Alysha 1Batch Method: 9060 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	TOC ICV Std 00033	TOC LCS Std 00041			
ICV 280-420057/1		9060		50 mL	1 mL				
LCS 280-420057/3		9060		200 mL		5 mL			
CCV 280-420057/15		9060		200 mL		5 mL			
CCV 280-420057/27		9060		200 mL		5 mL			
LCS 280-420057/34		9060		200 mL		5 mL			
CCV 280-420057/39		9060		200 mL		5 mL			
280-110865-A-8 MS	AFDV-131	9060	T	50 mL		1.25 mL			
280-110865-A-8 MSD	AFDV-131	9060	T	50 mL		1.25 mL			
CCV 280-420057/51		9060		200 mL		5 mL			
280-110865-A-17 MS	AFDV-119	9060	T	50 mL		1.25 mL			
280-110865-A-17 MSD	AFDV-119	9060	T	50 mL		1.25 mL			
CCV 280-420057/63		9060		200 mL		5 mL			

Batch Notes	
Acid ID	H2SO4_00179 0.2%H2SO4_00300
Combustion Catylst ID	17001d-01
Pipette/Syringe/Dispenser ID	5000ad

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 420058 Batch Start Date: 06/25/18 15:21 Batch Analyst: Duplin, Alysha 1Batch Method: 9060 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	TOC LCS Std 00041				
LCS 280-420058/3		9060		200 mL	5 mL				
LCS 280-420058/34		9060		200 mL	5 mL				
280-110865-A-8 MS	AFDV-131	9060	T	50 mL					
280-110865-A-8 MSD	AFDV-131	9060	T	50 mL	1.25 mL				
280-110865-A-9	AFDV-134	9060	T		1.25 mL				
280-110865-A-17 MS	AFDV-119	9060	T	50 mL	1.25 mL				
280-110865-A-17 MSD	AFDV-119	9060	T	50 mL	1.25 mL				

Batch Notes	
Acid ID	H2SO4_00179 0.2%H2SO4_00300
Combustion Catylst ID	17001d-01
Pipette/Syringe/Dispenser ID	5000ad

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419644 Batch Start Date: 06/21/18 19:22 Batch Analyst: Loux, Lauren PBatch Method: SM 2320B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	Alk daily lcs 00749				
LCS 280-419644/4		SM 2320B		InitialAmount is blank	1 mL				
LCSD 280-419644/5		SM 2320B		InitialAmount is blank	1 mL				
MB 280-419644/6		SM 2320B		InitialAmount is blank					
CCV 280-419644/17		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-419644/18		SM 2320B		InitialAmount is blank					
CCV 280-419644/29		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-419644/30		SM 2320B		InitialAmount is blank					
LCS 280-419644/31		SM 2320B		InitialAmount is blank	1 mL				
MB 280-419644/32		SM 2320B		InitialAmount is blank					
280-110865-C-4	AFDV-129	SM 2320B	T	InitialAmount is blank					
CCV 280-419644/43		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-419644/44		SM 2320B		InitialAmount is blank					
280-110865-C-5	AFDV-118	SM 2320B	T	InitialAmount is blank					
280-110865-C-6	AFDV-124	SM 2320B	T	InitialAmount is blank					
280-110865-C-8	AFDV-131	SM 2320B	T	InitialAmount is blank					
280-110865-C-9	AFDV-134	SM 2320B	T	InitialAmount is blank					
280-110865-C-10	AFDV-132	SM 2320B	T	InitialAmount is blank					
280-110865-C-11	AFDV-133	SM 2320B	T	InitialAmount is blank					
280-110865-C-12	AFDV-108	SM 2320B	T	InitialAmount is blank					
280-110865-C-13	AFDV-116	SM 2320B	T	InitialAmount is blank					
280-110865-C-15	AFDV-125	SM 2320B	T	InitialAmount is blank					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 2320B

Page 1 of 3



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419644 Batch Start Date: 06/21/18 19:22 Batch Analyst: Loux, Lauren PBatch Method: SM 2320B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	Alk daily lcs 00749				
280-110865-C-16	AFDV-106	SM 2320B	T	InitialAmount is blank					
CCV 280-419644/55		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-419644/56		SM 2320B		InitialAmount is blank					
LCS 280-419644/57		SM 2320B		InitialAmount is blank	1 mL				
MB 280-419644/58		SM 2320B		InitialAmount is blank					
280-110865-C-17	AFDV-119	SM 2320B	T	InitialAmount is blank					
280-110865-C-17 DU	AFDV-119	SM 2320B	T	InitialAmount is blank					
280-110865-C-18	AFDV-120	SM 2320B	T	InitialAmount is blank					
280-110865-C-19	AFDV-110	SM 2320B	T	InitialAmount is blank					
280-110865-C-21	AFDV-145	SM 2320B	T	InitialAmount is blank					
CCV 280-419644/68		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-419644/69		SM 2320B		InitialAmount is blank					

Batch Notes	
Acid ID	0.02H2SO4_00245
pH Buffer 1 ID	pH2buffer_00070
pH Buffer 2 ID	pH4buffer_00170
pH Buffer 3 ID	pH7buffer_00238
pH Buffer 4 ID	pH10buffer_00133
pH Buffer 5 ID	pH12buffer_00136
pH Buffer 6 ID	pH7buffer_00231
Nominal Amount Used	10 mL
Pipette/Syringe/Dispenser ID	5000LL
Probe ID	PCE 86 pH 1105 sep 14
Normality of First Titrant	0.02 N

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 2320B

Page 2 of 3



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 419644 Batch Start Date: 06/21/18 19:22 Batch Analyst: Loux, Lauren PBatch Method: SM 2320B Batch End Date: \_\_\_\_\_

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 415638 Batch Start Date: 05/21/18 10:47 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	FE Cal INT 00495		
IC 280-415638/30		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank			
IC 280-415638/31		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	0.2 mL		
IC 280-415638/32		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	0.5 mL		
IC 280-415638/33		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
IC 280-415638/34		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	2 mL		
IC 280-415638/35		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	3 mL		

Batch Notes	
Batch Comment	accuvac vial lot A7277 IU trained by CJ

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D

Page 1 of 1



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418499 Batch Start Date: 06/14/18 04:38 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	FE Cal INT 00498	FE ICV INT 00498	AnalysisComment
ICV 280-418499/1		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		1 mL	
ICB 280-418499/2		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			
LCS 280-418499/3		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		2 mL	
LCS 280-418499/4		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		2 mL	
MB 280-418499/5		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			
280-110865-C-4	AFDV-129	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-4 DU	AFDV-129	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-4 MS	AFDV-129	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-110865-C-4 MSD	AFDV-129	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-110865-C-5	AFDV-118	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			SAMPLE WAS BROWNISH
280-110865-C-6	AFDV-124	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-8	AFDV-131	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-9	AFDV-134	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-10	AFDV-132	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-11	AFDV-133	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-12	AFDV-108	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			SAMPLE WAS BROWNISH/TURBID
CCV 280-418499/17		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
CCB 280-418499/18		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			
280-110865-C-13	AFDV-116	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			SAMPLE WAS BROWNISH/TURBID
280-110865-C-15	AFDV-125	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-16	AFDV-106	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110865-1

SDG No.: \_\_\_\_\_

Batch Number: 418499 Batch Start Date: 06/14/18 04:38 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	FE Cal INT 00498	FE ICV INT 00498	AnalysisComment
280-110865-C-16 DU	AFDV-106	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-16 MS	AFDV-106	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-110865-C-16 MSD	AFDV-106	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-110865-C-17	AFDV-119	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-18	AFDV-120	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-19	AFDV-110	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110865-C-21	AFDV-145	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
CCV 280-418499/29		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
CCB 280-418499/30		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			

Batch Notes	
Batch Comment	accuvac vial lot A8071 IU trained by CJ

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D

Page 2 of 2



# Shipping and Receiving Documents



## TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Phone (303) 736-0100 Fax (303) 431-7171

## Chain of Custody Record



280-110865 Chain of Custody

stAmerica

FOR ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler: <u>C. RASS</u>		Lab PM: <u>Jamie Ide, 303-736-0126</u>		280-110865 Chain of Custody		18-01	
Client Contact: <u>Ms. Shannon Olson</u>		Phone: <u>920-222-1996</u>		E-Mail: <u>jamie.ide@testamericainc.com</u>				Page: <u>1</u> of <u>1</u>	
Company: <u>CH2M Hill, Inc.</u>								Job #	
Address: <u>2020 SW 4th Ave, Suite 300</u>		Due Date Requested: <u>Sec Saw</u>						Analysis Requested	
City: <u>Portland</u>		TAT Requested (days): <u>Standard</u>							
State, Zip: <u>OR, 97201</u>									
Phone: <u>503-736-4111</u>		PO #:							
Email: <u>shannon.olson@ch2m.com</u>		WO #:							
Project Name: <u>THAN Davenport, IA - June 2017</u>		Project #: <u>28013442</u>							
Site: <u>Davenport, IA</u>		SSOW#:							
								Preservation Codes:	
								A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                  Q - Na2SO3 F - MeOH                    R - Na2S2SO3 G - Amchlor                S - H2SO4 H - Ascorbic Acid          T - TSP Dodecahydrate I - Ice                        U - Acetone J - DI Water                V - MCAA K - EDTA                    W - ph 4-5 L - EDA                      Z - other (specify)	
								Other:	
								Special Instructions/Note:	
								Shortholds: Ferrous Iron, Nitrate(NO3)	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOC's	9080 - TOC	300.0 - Nitrate	300.0 - Chloride	300.0 - Sulfate	2320B - Alkalinity	SM4500_S2_F - Sulfide	RSK-175 - Dissolved Gases (MEE)	3500_FE_E - Ferrous Iron	Total Number of containers
<del>AFDV-126</del> AFDV-126	6/12/18	1005	G	W	N	N	X	X	X							5
<del>AFDV-127</del> AFDV-127		1010			N	N	X	X	X							5
<del>AFDV-128</del> AFDV-128		1010			N	N	X	X	X							5
<del>AFDV-129</del> AFDV-129		1135			N	N	X	X	X	X	X	X	X	X		9
AFDV-118		1130			M	N	X	X	X	X	X	X	X	X		9
AFDV-124		1010			N	N	X	X	X	X	X	X	X	X		9
AFDV-146	6/12/18	1632	G	W	N	N	X									2

<b>Possible Hazard Identification</b>		<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b>	
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B
<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Radiological	<input type="checkbox"/> Return To Client	
Deliverable Requested: I, II, III, IV, Other (specify) <u>Sec Saw</u>		<input checked="" type="checkbox"/> Disposal By Lab	
		<input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:		Special Instructions/QC Requirements:	
Date:		Time:	
Relinquished by:		Method of Shipment:	
Date/Time:		Received by: <u>Red H</u>	
Company:		Date/Time: <u>6-13-18 0900</u>	
Relinquished by:		Company: <u>TA-Pen</u>	
Date/Time:		Received by:	
Company:		Date/Time:	
Relinquished by:		Company:	
Date/Time:		Received by:	
Company:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:	
		Cooler Temperature(s) °C and Other Remarks: <u>5.6, 3.0, 1.0 ICE # 8 0.0 Transfer RP 6/13/18</u>	



**TestAmerica Denver**

4955 Yarrow Street

Arvada, CO 80002

Phone (303) 736-0100 Fax (303) 431-7171

**Chain of Custody Record**
**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Client Contact: Ms. Shannon Olson Company: CH2M Hill, Inc. Address: 2020 SW 4th Ave, Suite 300 City: Portland State, Zip: OR, 97201 Phone: 503-736-4111 Email: shannon.olson@ch2m.com Project Name: THAN Davenport, IA - June 2017 Site: Davenport, IA		Sampler: C. Reuss Phone: 920-222-1996 Lab PM: Jamie Ide, 303-736-0126 E-Mail: jamie.ide@testamericainc.com		Carrier Tracking No(s):  COC No: 2018-02 Page: 1 of 1 Job #:																																									
Due Date Requested: see SOW TAT Requested (days): Standard PO #:  WO #:  Project #: 28013442 SSOW#:		<b>Analysis Requested</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>8260B - VOCs</th> <th>9060 - TOC</th> <th>300.0 - Nitrate</th> <th>300.0 - Chloride</th> <th>300.0 - Sulfate</th> <th>2320B - Alkalinity</th> <th>SM4500 - S<sub>2</sub>-F - Sulfide</th> <th>RSK-175 - Dissolved Gases (MEE)</th> <th>3500 - FE - Ferrous Iron</th> <th>Total Number of containers</th> </tr> <tr> <td></td> <td></td> <td>A</td> <td>S</td> <td>N</td> <td>N</td> <td>N</td> <td>N</td> <td>B/C</td> <td>A</td> <td>N</td> <td></td> </tr> </table>				Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	9060 - TOC	300.0 - Nitrate	300.0 - Chloride	300.0 - Sulfate	2320B - Alkalinity	SM4500 - S <sub>2</sub> -F - Sulfide	RSK-175 - Dissolved Gases (MEE)	3500 - FE - Ferrous Iron	Total Number of containers			A	S	N	N	N	N	B/C	A	N																	
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	9060 - TOC	300.0 - Nitrate	300.0 - Chloride	300.0 - Sulfate	2320B - Alkalinity	SM4500 - S <sub>2</sub> -F - Sulfide	RSK-175 - Dissolved Gases (MEE)	3500 - FE - Ferrous Iron	Total Number of containers																																		
		A	S	N	N	N	N	B/C	A	N																																			
<b>Sample Identification</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)</th> <th>Preservation Code:</th> </tr> </thead> <tbody> <tr> <td>6/12/18</td> <td>1450</td> <td>G</td> <td>W</td> <td></td> </tr> <tr> <td></td> <td>1500</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>1510</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>1515</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>1546</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>1530</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6/12/18</td> <td>1633</td> <td>G</td> <td>W</td> <td></td> </tr> </tbody> </table>		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:	6/12/18	1450	G	W			1500					1510					1515					1546					1530				6/12/18	1633	G	W		<b>Special Instructions/Note:</b> Shortholds: Ferrous Iron, Nitrate(NO3)			
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Preservation Code:																																									
6/12/18	1450	G	W																																										
	1500																																												
	1510																																												
	1515																																												
	1546																																												
	1530																																												
6/12/18	1633	G	W																																										
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																																								
Deliverable Requested: I, II, III, IV, Other (specify) <b>see SOW</b>					Special Instructions/QC Requirements:																																								
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:																																							
Relinquished by:		Date/Time:		Company:		Received by: <i>Red</i>																																							
Relinquished by:		Date/Time:		Company:		Date/Time: 6-13-18 0900																																							
Relinquished by:		Date/Time:		Company:		Received by:																																							
Relinquished by:		Date/Time:		Company:		Date/Time:																																							
Custody Seals Intact: Δ Yes   Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:																																									



TestAmerica  
THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

Page 654 of 655



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-110865-1

**Login Number: 110865**

**List Source: TestAmerica Denver**

**List Number: 1**

**Creator: Pottruff, Reed W**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	Headspace larger than 1/4" in one or more vials, one vial with accpt. headspace
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Job Number: 280-110943-1

Job Description: THAN Davenport, IA - June 2018

For:  
CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201  
Attention: Ms. Shannon Olson



Approved for release.  
Jamie N Ide  
Project Manager I  
7/18/2018 2:19 PM

---

Jamie N Ide, Project Manager I  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0126  
jamie.ide@testamericainc.com  
07/18/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	5
Definitions . . . . .	5
Case Narrative . . . . .	6
Detection Summary . . . . .	9
Client Sample Results . . . . .	16
Default Detection Limits . . . . .	36
Surrogate Summary . . . . .	37
QC Sample Results . . . . .	39
QC Association . . . . .	60
Chronicle . . . . .	65
Certification Summary . . . . .	71
Method Summary . . . . .	72
Sample Summary . . . . .	73
Manual Integration Summary . . . . .	74
Reagent Traceability . . . . .	87
Organic Sample Data . . . . .	103
GC/MS VOA . . . . .	103
Method 8260B . . . . .	103
Method 8260B QC Summary . . . . .	104
Method 8260B Sample Data . . . . .	140
Standards Data . . . . .	173
Method 8260B ICAL Data . . . . .	173
Method 8260B CCAL Data . . . . .	330
Raw QC Data . . . . .	359
Method 8260B Blank Data . . . . .	359



# Table of Contents

Method 8260B LCS/LCSD Data .....	363
Method 8260B MS/MSD Data .....	367
Method 8260B Run Logs .....	375
Method 8260B Prep Data .....	422
GC VOA .....	441
Method RSK-175 .....	441
Method RSK-175 QC Summary .....	442
Method RSK-175 Sample Data .....	470
Standards Data .....	477
Method RSK-175 ICAL Data .....	477
Method RSK-175 CCAL Data .....	497
Raw QC Data .....	529
Method RSK-175 Blank Data .....	529
Method RSK-175 LCS/LCSD Data .....	531
Method RSK-175 MS/MSD Data .....	535
Method RSK-175 Duplicate/Triplicate Data .....	539
Method RSK-175 Run Logs .....	541
Inorganic Sample Data .....	546
General Chemistry Data .....	546
Gen Chem Cover Page .....	547
Gen Chem Sample Data .....	548
Gen Chem QC Data .....	566
Gen Chem ICV/CCV .....	566
Gen Chem Blanks .....	574
Gen Chem MS/MSD/PDS .....	575
Gen Chem Duplicates .....	578



# Table of Contents

Gen Chem LCS/LCSD .....	579
Gen Chem MDL .....	582
Gen Chem Analysis Run Log .....	596
Gen Chem Prep Data .....	610
Shipping and Receiving Documents .....	628
Client Chain of Custody .....	629
Sample Receipt Checklist .....	632



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.

### GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

### General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



**CASE NARRATIVE**  
**Client: CH2M Hill, Inc.**  
**Project: THAN Davenport, IA - June 2018**  
**Report Number: 280-110943-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 6/14/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 4.2° C, 4.6° C and 4.6° C.

There was no sample collection time listed on the chain of custody for AFDV-117 (280-110943-14). The laboratory logged the sample collection of the sample per the container labels and will proceed unless instructed otherwise. The client was notified on 6/15/2018.

There was no sample collection time listed on the chain of custody or container label of sample volume received for AFDV-150 (280-110943-21). The laboratory logged the sample collection time as the default collection time 00:00 (12:00AM) and will proceed unless instructed otherwise. The client was notified on 6/15/2018.

The sample ID on the container label of one of three HCl preserved VOA vials received for the requested 8260B VOCs analysis for AFDV-105 (280-110943-19) did not match the chain of custody. The container label lists a sample ID of AFDV-106 while the chain of custody lists a sample ID of AFDV-105. The laboratory matched the container to the chain of custody by the collection date/time and logged the sample ID per the chain of custody and will proceed unless instructed otherwise. The client was notified on 6/15/2018.

Thirteen of eighteen HCl preserved VOA vials for the requested 8260B VOCs and RSK-175 dissolved gases analyses for parent sample AFDV-121 (280-110943-3) (+MS/MSD) were received with a headspace bubble greater than 6 mm in diameter. Analytical results may be biased low due to headspace for a portion of the parent sample analyses and/or laboratory QC due to headspace. The laboratory will proceed with the requested analyses unless instructed otherwise. The client was notified on 6/15/2018.

Five of six HCl preserved VOA vials for the requested 8260B VOCs and RSK-175 dissolved gases analyses for AFDV-130 (280-110943-4) were received with a headspace bubble greater than 6mm in diameter. Analytical results may be biased low due to headspace. The laboratory will proceed with the requested analyses unless instructed otherwise. The client was notified on 6/15/2018.

Three of three HCl preserved VOA vials for the requested 8260B VOCs analysis for AFDV-111 (280-110943-2), AFDV-114 (280-110943-6), AFDV-140 (280-110943-7), AFDV-115 (280-110943-8), AFDV-138 (280-110943-9) (+MS/MSD), AFDV-107 (280-110943-10), AFDV-113 (280-110943-15), AFDV-139 (280-110943-16), AFDV-141 (280-110943-17), AFDV-142 (280-110943-18), AFDV-105 (280-110943-19), AFDV-149 (280-110943-20), AFDV-150 (280-110943-21) and AFDV-151 (280-110943-22) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/27/2018, 07/03/2018 and 07/14/2018.

Two of six HCl preserved VOA vials for the requested 8260B VOCs analysis and RSK-175 dissolved gases analysis for AFDV-109 (280-110943-12), and AFDV-101 (280-110943-13) were received with a headspace bubble greater than 6mm in diameter. Four of six HCl preserved VOA vials for the requested 8260B VOCs analysis and RSK-175 dissolved gases analysis for AFDV-117 (280-110943-14) were received with a headspace bubble greater than 6mm in diameter. Sufficient sample volume without headspace was received to perform the requested analyses. However, analytical results may be biased low due to headspace if re-analysis is requested or required. The client was notified on 6/15/2018.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples AFDV-104 (280-110943-1), AFDV-111 (280-110943-2), AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-114 (280-110943-6), AFDV-140 (280-110943-7), AFDV-115 (280-110943-8), AFDV-138 (280-110943-9), AFDV-107 (280-110943-10), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13), AFDV-117 (280-110943-14), AFDV-113 (280-110943-15), AFDV-139 (280-110943-16), AFDV-141 (280-110943-17), AFDV-142 (280-110943-18), AFDV-105 (280-110943-19), AFDV-149 (280-110943-20), AFDV-150 (280-110943-21) and AFDV-151 (280-110943-22) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/27/2018, 07/03/2018 and 07/14/2018.

The following volatile samples in batch 420184 was analyzed with significant headspace in the sample container(s): AFDV-104 (280-110943-1), AFDV-111 (280-110943-2), AFDV-121 (280-110943-3), AFDV-121 (280-110943-3[MS]), AFDV-121 (280-110943-3[MSD]), AFDV-130 (280-110943-4), AFDV-114 (280-110943-6), AFDV-140 (280-110943-7), AFDV-107 (280-110943-10), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13), AFDV-117 (280-110943-14), AFDV-113 (280-110943-15), AFDV-141 (280-110943-17), AFDV-149 (280-110943-20), AFDV-138 (280-110943-9), AFDV-138 (280-110943-9[MS]) and AFDV-138



(280-110943-9[MSD])). Significant headspace is defined as a bubble greater than 6 mm in diameter. All available sample containers had headspace.

The following samples were analyzed outside of analytical holding time due to a high volume of samples received impacting analytical capacity. The following samples are reported outside of 14 day holding time: AFDV-139 (280-110943-16), AFDV-141 (280-110943-17), AFDV-142 (280-110943-18), and AFDV-105 (280-110943-19). The client was notified of this discrepancy on 7/17/18.

The container used for reanalysis of the following sample in batch 420929 contained headspace: AFDV-139 (280-110943-16) The method used for analysis requires that the sample does not contain headspace. All available sample containers had headspace.

Methylene Chloride was detected in method blank MB 280-420311/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

1,1-Dichloroethane, cis-1,2-Dichloroethene and Vinyl chloride failed the recovery criteria for the MS/MSD of sample AFDV-121 (280-110943-3) in batch 280-420184. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

1,1,1-Trichloroethane, 1,1-Dichloroethane, cis-1,2-Dichloroethene and Vinyl chloride failed the recovery criteria low for the MS/MSD of sample AFDV-138 (280-110943-9) in batch 280-420311. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

Samples AFDV-104 (280-110943-1)[10X], AFDV-111 (280-110943-2)[200X], AFDV-111 (280-110943-2)[2000X], AFDV-121 (280-110943-3)[10X], AFDV-130 (280-110943-4)[4X], AFDV-114 (280-110943-6)[10X], AFDV-114 (280-110943-6)[100X], AFDV-140 (280-110943-7)[10X], AFDV-140 (280-110943-7)[100X], AFDV-115 (280-110943-8)[10X], AFDV-115 (280-110943-8)[100X], AFDV-138 (280-110943-9)[4X], AFDV-107 (280-110943-10)[10X], AFDV-107 (280-110943-10)[100X], AFDV-113 (280-110943-15)[500X], AFDV-113 (280-110943-15)[5000X], AFDV-141 (280-110943-17)[400X], AFDV-141 (280-110943-17)[4000X], AFDV-142 (280-110943-18)[400X] and AFDV-142 (280-110943-18)[4000X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **DISSOLVED GASES**

Samples AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13) and AFDV-117 (280-110943-14) were analyzed for dissolved gases in accordance with RSK\_175. The samples were analyzed on 06/25/2018 and 06/26/2018.

The following volatile samples were analyzed with significant headspace in the sample container(s): AFDV-121 (280-110943-3), AFDV-130 (280-110943-4) and (280-110943-13 DU). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Methane was detected in method blank MB 280-420106/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Ethene and/or Methane failed the recovery criteria low for the MS/MSD of sample 280-111004-6 in batch 280-420106. Ethene exceeded the RPD limit. Refer to the QC report for details.

Sample AFDV-130 (280-110943-4)[18X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ALKALINITY**

Samples AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13) and AFDV-117 (280-110943-14) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 06/23/2018.

Alkalinity was detected in method blank MB 280-419814/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ANIONS (28 DAYS)**

Samples AFDV-104 (280-110943-1), AFDV-111 (280-110943-2), AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-114 (280-110943-6), AFDV-140 (280-110943-7), AFDV-115 (280-110943-8), AFDV-138 (280-110943-9), AFDV-107 (280-110943-10), AFDV-143 (280-110943-11), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13), AFDV-117 (280-110943-14), AFDV-113 (280-110943-15), AFDV-139 (280-110943-16), AFDV-141 (280-110943-17) and AFDV-142 (280-110943-18) were analyzed for anions (28 days) in accordance with EPA Method 300.0. The samples were analyzed on 07/05/2018, 07/10/2018 and 07/11/2018.



Samples AFDV-143 (280-110943-11)[50X], AFDV-113 (280-110943-15)[5X], AFDV-141 (280-110943-17)[5X] and AFDV-142 (280-110943-18)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly. It was noted that sample AFDV-143 (280-110943-11) had deep purple color.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ANIONS (48 HOURS)**

Samples AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13) and AFDV-117 (280-110943-14) were analyzed for anions (48 hours) in accordance with EPA Method 300.0. The samples were analyzed on 06/14/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **FERROUS IRON**

Samples AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13) and AFDV-117 (280-110943-14) were analyzed for ferrous iron in accordance with SM19 3500 FE D. The samples were analyzed on 06/22/2018.

Sample AFDV-130 (280-110943-4)[5X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL ORGANIC CARBON**

Samples AFDV-104 (280-110943-1), AFDV-111 (280-110943-2), AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-114 (280-110943-6), AFDV-140 (280-110943-7), AFDV-115 (280-110943-8), AFDV-138 (280-110943-9), AFDV-107 (280-110943-10), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13), AFDV-117 (280-110943-14), AFDV-113 (280-110943-15), AFDV-139 (280-110943-16), AFDV-141 (280-110943-17) and AFDV-142 (280-110943-18) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 06/28/2018.

Total Organic Carbon - Average was detected in method blank MB 280-420381/35 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **SULFIDE**

Samples AFDV-121 (280-110943-3), AFDV-130 (280-110943-4), AFDV-144 (280-110943-5), AFDV-109 (280-110943-12), AFDV-101 (280-110943-13) and AFDV-117 (280-110943-14) were analyzed for sulfide in accordance with SM20 4500 S2 F. The samples were analyzed on 06/18/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-104

## Lab Sample ID: 280-110943-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	28		1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	11		1.0	0.22	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.77	J	1.0	0.23	ug/L	1		8260B	Total/NA
Acetone	8.1	J	10	1.9	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	27		1.0	0.15	ug/L	1		8260B	Total/NA
Tetrachloroethene	180	E	1.0	0.20	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.0		1.0	0.15	ug/L	1		8260B	Total/NA
Trichloroethene	20		1.0	0.16	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	210		10	2.0	ug/L	10		8260B	Total/NA
Chloride	22		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	3.6	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-111

## Lab Sample ID: 280-110943-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	8100		200	32	ug/L	200		8260B	Total/NA
1,1-Dichloroethane	4200		200	44	ug/L	200		8260B	Total/NA
1,1-Dichloroethene	630		200	46	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene	62000	E	200	30	ug/L	200		8260B	Total/NA
Ethylbenzene	1700		200	32	ug/L	200		8260B	Total/NA
Methylene Chloride	340	J	400	64	ug/L	200		8260B	Total/NA
m-Xylene & p-Xylene	2800		400	68	ug/L	200		8260B	Total/NA
o-Xylene	1300		200	38	ug/L	200		8260B	Total/NA
Tetrachloroethene	45	J	200	40	ug/L	200		8260B	Total/NA
Toluene	4400		200	34	ug/L	200		8260B	Total/NA
trans-1,2-Dichloroethene	150	J	200	30	ug/L	200		8260B	Total/NA
Vinyl chloride	2600		200	20	ug/L	200		8260B	Total/NA
Xylenes, Total	4100		400	38	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene - DL	80000		2000	300	ug/L	2000		8260B	Total/NA
Chloride	130		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	6.1	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-121

## Lab Sample ID: 280-110943-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	44		1.0	0.22	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	4.1		1.0	0.23	ug/L	1		8260B	Total/NA
Acetone	5.8	J	10	1.9	ug/L	1		8260B	Total/NA
Benzene	1.6		1.0	0.16	ug/L	1		8260B	Total/NA
Chloroethane	1.8	J	2.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	290	E	1.0	0.15	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.59	J	1.0	0.15	ug/L	1		8260B	Total/NA
Vinyl chloride	310	E	1.0	0.10	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	340		10	1.5	ug/L	10		8260B	Total/NA
Vinyl chloride - DL	400		10	1.0	ug/L	10		8260B	Total/NA
Methane	400		5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethene	32		5.0	0.40	ug/L	1		RSK-175	Total/NA
Ethane	31		5.0	0.57	ug/L	1		RSK-175	Total/NA
Chloride	150		3.0	0.25	mg/L	1		300.0	Total/NA
Sulfate	110		5.0	0.23	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-121 (Continued)

## Lab Sample ID: 280-110943-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon - Average	2.3	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	350	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA

## Client Sample ID: AFDV-130

## Lab Sample ID: 280-110943-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.8	J	10	1.9	ug/L	1		8260B	Total/NA
Benzene	7.8		1.0	0.16	ug/L	1		8260B	Total/NA
Chloroethane	200	E	2.0	0.41	ug/L	1		8260B	Total/NA
Ethylbenzene	7.4		1.0	0.16	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	29		2.0	0.34	ug/L	1		8260B	Total/NA
o-Xylene	7.6		1.0	0.19	ug/L	1		8260B	Total/NA
Toluene	0.97	J	1.0	0.17	ug/L	1		8260B	Total/NA
Xylenes, Total	37		2.0	0.19	ug/L	1		8260B	Total/NA
Chloroethane - DL	200		8.0	1.6	ug/L	4		8260B	Total/NA
Methane	7300		5.0	0.22	ug/L	1		RSK-175	Total/NA
Ethane	2000		90	10	ug/L	18		RSK-175	Total/NA
Chloride	110		3.0	0.25	mg/L	1		300.0	Total/NA
Sulfate	9.2		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	6.8	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	570	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Ferrous Iron	0.54	J HF	1.0	0.11	mg/L	5		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-144

## Lab Sample ID: 280-110943-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.4	J	10	1.9	ug/L	1		8260B	Total/NA
Styrene	0.61	J	1.0	0.17	ug/L	1		8260B	Total/NA
Toluene	0.33	J	1.0	0.17	ug/L	1		8260B	Total/NA
Methane	0.64	J	5.0	0.22	ug/L	1		RSK-175	Total/NA
Total Organic Carbon - Average	0.29	J B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	3.9	J B	5.0	1.1	mg/L	1		SM 2320B	Total/NA

## Client Sample ID: AFDV-114

## Lab Sample ID: 280-110943-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	89		10	1.6	ug/L	10		8260B	Total/NA
1,1-Dichloroethane	140		10	2.2	ug/L	10		8260B	Total/NA
Benzene	28		10	1.6	ug/L	10		8260B	Total/NA
Chloroethane	220		20	4.1	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene	240		10	1.5	ug/L	10		8260B	Total/NA
Ethylbenzene	320		10	1.6	ug/L	10		8260B	Total/NA
Methylene Chloride	6.2	J	20	3.2	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	360		20	3.4	ug/L	10		8260B	Total/NA
o-Xylene	180		10	1.9	ug/L	10		8260B	Total/NA
Toluene	1100	E	10	1.7	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	3.0	J	10	1.5	ug/L	10		8260B	Total/NA
Vinyl chloride	470		10	1.0	ug/L	10		8260B	Total/NA
Xylenes, Total	540		20	1.9	ug/L	10		8260B	Total/NA
Toluene - DL	3400		100	17	ug/L	100		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-114 (Continued)

## Lab Sample ID: 280-110943-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	150		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	5.7	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-140

## Lab Sample ID: 280-110943-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	59		10	1.6	ug/L	10		8260B	Total/NA
1,1-Dichloroethane	54		10	2.2	ug/L	10		8260B	Total/NA
1,1-Dichloroethene	20		10	2.3	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene	3200	E	10	1.5	ug/L	10		8260B	Total/NA
Ethylbenzene	150		10	1.6	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	7.9	J	20	3.4	ug/L	10		8260B	Total/NA
o-Xylene	8.2	J	10	1.9	ug/L	10		8260B	Total/NA
Tetrachloroethene	3.0	J	10	2.0	ug/L	10		8260B	Total/NA
Toluene	14		10	1.7	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	11		10	1.5	ug/L	10		8260B	Total/NA
Trichloroethene	8.0	J	10	1.6	ug/L	10		8260B	Total/NA
Vinyl chloride	290		10	1.0	ug/L	10		8260B	Total/NA
Xylenes, Total	16	J	20	1.9	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene - DL	4200		100	15	ug/L	100		8260B	Total/NA
Chloride	83		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	2.9	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-115

## Lab Sample ID: 280-110943-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	88		10	1.6	ug/L	10		8260B	Total/NA
1,1-Dichloroethane	140		10	2.2	ug/L	10		8260B	Total/NA
Benzene	30		10	1.6	ug/L	10		8260B	Total/NA
Chloroethane	250		20	4.1	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene	290		10	1.5	ug/L	10		8260B	Total/NA
Ethylbenzene	330		10	1.6	ug/L	10		8260B	Total/NA
Methylene Chloride	6.3	J	20	3.2	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	400		20	3.4	ug/L	10		8260B	Total/NA
o-Xylene	190		10	1.9	ug/L	10		8260B	Total/NA
Toluene	1200	E	10	1.7	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	3.2	J	10	1.5	ug/L	10		8260B	Total/NA
Vinyl chloride	550		10	1.0	ug/L	10		8260B	Total/NA
Xylenes, Total	590		20	1.9	ug/L	10		8260B	Total/NA
Toluene - DL	3900		100	17	ug/L	100		8260B	Total/NA
Chloride	150		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	5.6	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-138

## Lab Sample ID: 280-110943-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	40		1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	100	E	1.0	0.22	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.34	J	1.0	0.23	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	0.58	J	1.0	0.13	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-138 (Continued)

## Lab Sample ID: 280-110943-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	8.7	J	10	1.9	ug/L	1		8260B	Total/NA
Benzene	0.53	J	1.0	0.16	ug/L	1		8260B	Total/NA
Chloroethane	8.3		2.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	140	E	1.0	0.15	ug/L	1		8260B	Total/NA
Ethylbenzene	0.18	J	1.0	0.16	ug/L	1		8260B	Total/NA
Methylene Chloride	0.35	J B	2.0	0.32	ug/L	1		8260B	Total/NA
o-Xylene	0.87	J	1.0	0.19	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.88	J	1.0	0.20	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.77	J	1.0	0.15	ug/L	1		8260B	Total/NA
Trichloroethene	0.80	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	230	E	1.0	0.10	ug/L	1		8260B	Total/NA
Xylenes, Total	0.87	J	2.0	0.19	ug/L	1		8260B	Total/NA
1,1-Dichloroethane - DL	100		4.0	0.88	ug/L	4		8260B	Total/NA
cis-1,2-Dichloroethene - DL	140		4.0	0.60	ug/L	4		8260B	Total/NA
Vinyl chloride - DL	230		4.0	0.40	ug/L	4		8260B	Total/NA
Chloride	48		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	6.9	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-107

## Lab Sample ID: 280-110943-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.6	J	10	1.6	ug/L	10		8260B	Total/NA
1,1-Dichloroethane	2.5	J	10	2.2	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene	1000	E	10	1.5	ug/L	10		8260B	Total/NA
Tetrachloroethene	2600	E	10	2.0	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	4.0	J	10	1.5	ug/L	10		8260B	Total/NA
Trichloroethene	180		10	1.6	ug/L	10		8260B	Total/NA
Vinyl chloride	39		10	1.0	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene - DL	1000		100	15	ug/L	100		8260B	Total/NA
Tetrachloroethene - DL	2600		100	20	ug/L	100		8260B	Total/NA
Chloride	9.3		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	6.6	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-143

## Lab Sample ID: 280-110943-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	63	J	150	13	mg/L	50		300.0	Total/NA

## Client Sample ID: AFDV-109

## Lab Sample ID: 280-110943-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	0.17	J	1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.22	J	1.0	0.22	ug/L	1		8260B	Total/NA
Acetone	5.0	J	10	1.9	ug/L	1		8260B	Total/NA
Methane	0.58	J	5.0	0.22	ug/L	1		RSK-175	Total/NA
Chloride	44		3.0	0.25	mg/L	1		300.0	Total/NA
Nitrate as N	2.6		0.50	0.042	mg/L	1		300.0	Total/NA
Sulfate	64		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	1.7	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	310	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-101

## Lab Sample ID: 280-110943-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.0	J	10	1.9	ug/L	1		8260B	Total/NA
Methane	0.62	J	5.0	0.22	ug/L	1		RSK-175	Total/NA
Chloride	42		3.0	0.25	mg/L	1		300.0	Total/NA
Nitrate as N	5.7		0.50	0.042	mg/L	1		300.0	Total/NA
Sulfate	41		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	2.2	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	240	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA

## Client Sample ID: AFDV-117

## Lab Sample ID: 280-110943-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.45	J	1.0	0.22	ug/L	1		8260B	Total/NA
Acetone	5.7	J	10	1.9	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.8		1.0	0.15	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.26	J	1.0	0.20	ug/L	1		8260B	Total/NA
Trichloroethene	0.32	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.21	J	1.0	0.10	ug/L	1		8260B	Total/NA
Methane	94	B	5.0	0.22	ug/L	1		RSK-175	Total/NA
Chloride	23		3.0	0.25	mg/L	1		300.0	Total/NA
Sulfate	46		5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	3.4	B	1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	440	B	5.0	1.1	mg/L	1		SM 2320B	Total/NA

## Client Sample ID: AFDV-113

## Lab Sample ID: 280-110943-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2400		500	80	ug/L	500		8260B	Total/NA
1,1-Dichloroethane	1000		500	110	ug/L	500		8260B	Total/NA
1,1-Dichloroethene	550		500	120	ug/L	500		8260B	Total/NA
cis-1,2-Dichloroethene	130000	E	500	75	ug/L	500		8260B	Total/NA
Ethylbenzene	220	J	500	80	ug/L	500		8260B	Total/NA
Methylene Chloride	230	J	1000	160	ug/L	500		8260B	Total/NA
m-Xylene & p-Xylene	370	J	1000	170	ug/L	500		8260B	Total/NA
o-Xylene	260	J	500	95	ug/L	500		8260B	Total/NA
Tetrachloroethene	1300		500	100	ug/L	500		8260B	Total/NA
Toluene	760		500	85	ug/L	500		8260B	Total/NA
trans-1,2-Dichloroethene	300	J	500	75	ug/L	500		8260B	Total/NA
Trichloroethene	1500		500	80	ug/L	500		8260B	Total/NA
Vinyl chloride	4700		500	50	ug/L	500		8260B	Total/NA
Xylenes, Total	630	J	1000	95	ug/L	500		8260B	Total/NA
cis-1,2-Dichloroethene - DL	150000		5000	750	ug/L	5000		8260B	Total/NA
Chloride	510		15	1.3	mg/L	5		300.0	Total/NA
Total Organic Carbon - Average	8.5	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-139

## Lab Sample ID: 280-110943-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	14	H	1.0	0.22	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	1.6	H	1.0	0.13	ug/L	1		8260B	Total/NA
Acetone	6.8	J H	10	1.9	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-139 (Continued)

## Lab Sample ID: 280-110943-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.2	H	1.0	0.16	ug/L	1		8260B	Total/NA
Chloroethane	13	H	2.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	12	H	1.0	0.15	ug/L	1		8260B	Total/NA
Vinyl chloride	21	H	1.0	0.10	ug/L	1		8260B	Total/NA
Chloride	37		3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	3.9	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-141

## Lab Sample ID: 280-110943-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	27000	H E	400	64	ug/L	400		8260B	Total/NA
1,1-Dichloroethane	10000	H	400	88	ug/L	400		8260B	Total/NA
1,1-Dichloroethene	1400	H	400	92	ug/L	400		8260B	Total/NA
Acetone	2200	J H	4000	760	ug/L	400		8260B	Total/NA
cis-1,2-Dichloroethene	76000	H E	400	60	ug/L	400		8260B	Total/NA
Ethylbenzene	2100	H	400	64	ug/L	400		8260B	Total/NA
Methylene Chloride	120000	H E	800	130	ug/L	400		8260B	Total/NA
m-Xylene & p-Xylene	3300	H	800	140	ug/L	400		8260B	Total/NA
o-Xylene	1300	H	400	76	ug/L	400		8260B	Total/NA
Tetrachloroethene	450	H	400	80	ug/L	400		8260B	Total/NA
Toluene	23000	H	400	68	ug/L	400		8260B	Total/NA
trans-1,2-Dichloroethene	93	J H	400	60	ug/L	400		8260B	Total/NA
Trichloroethene	1000	H	400	64	ug/L	400		8260B	Total/NA
Vinyl chloride	23000	H	400	40	ug/L	400		8260B	Total/NA
Xylenes, Total	4600	H	800	76	ug/L	400		8260B	Total/NA
1,1,1-Trichloroethane - DL	30000	H	4000	640	ug/L	4000		8260B	Total/NA
cis-1,2-Dichloroethene - DL	81000	H	4000	600	ug/L	4000		8260B	Total/NA
Methylene Chloride - DL	130000	H	8000	1300	ug/L	4000		8260B	Total/NA
Chloride	420		15	1.3	mg/L	5		300.0	Total/NA
Total Organic Carbon - Average	14	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-142

## Lab Sample ID: 280-110943-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	24000	H E	400	64	ug/L	400		8260B	Total/NA
1,1-Dichloroethane	9100	H	400	88	ug/L	400		8260B	Total/NA
1,1-Dichloroethene	1200	H	400	92	ug/L	400		8260B	Total/NA
Acetone	1400	J H	4000	760	ug/L	400		8260B	Total/NA
cis-1,2-Dichloroethene	67000	H E	400	60	ug/L	400		8260B	Total/NA
Ethylbenzene	2100	H	400	64	ug/L	400		8260B	Total/NA
Methylene Chloride	100000	H E	800	130	ug/L	400		8260B	Total/NA
m-Xylene & p-Xylene	3500	H	800	140	ug/L	400		8260B	Total/NA
o-Xylene	1300	H	400	76	ug/L	400		8260B	Total/NA
Tetrachloroethene	470	H	400	80	ug/L	400		8260B	Total/NA
Toluene	23000	H	400	68	ug/L	400		8260B	Total/NA
trans-1,2-Dichloroethene	66	J H	400	60	ug/L	400		8260B	Total/NA
Trichloroethene	980	H	400	64	ug/L	400		8260B	Total/NA
Vinyl chloride	21000	H	400	40	ug/L	400		8260B	Total/NA
Xylenes, Total	4800	H	800	76	ug/L	400		8260B	Total/NA
1,1,1-Trichloroethane - DL	27000	H	4000	640	ug/L	4000		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-142 (Continued)

## Lab Sample ID: 280-110943-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene - DL	82000	H	4000	600	ug/L	4000		8260B	Total/NA
Methylene Chloride - DL	130000	H	8000	1300	ug/L	4000		8260B	Total/NA
Chloride	420		15	1.3	mg/L	5		300.0	Total/NA
Total Organic Carbon - Average	14	B	1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-105

## Lab Sample ID: 280-110943-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	12	H	1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.42	J H	1.0	0.22	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.72	J H	1.0	0.15	ug/L	1		8260B	Total/NA
Tetrachloroethene	30	H	1.0	0.20	ug/L	1		8260B	Total/NA
Trichloroethene	12	H	1.0	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-149

## Lab Sample ID: 280-110943-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.7	J	10	1.9	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-150

## Lab Sample ID: 280-110943-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.9	J	10	1.9	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-151

## Lab Sample ID: 280-110943-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.4	J	10	1.9	ug/L	1		8260B	Total/NA
Methylene Chloride	0.34	J	2.0	0.32	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-104**

**Date Collected: 06/13/18 11:30**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	28		1.0	0.16	ug/L			06/27/18 11:19	1
1,1-Dichloroethane	11		1.0	0.22	ug/L			06/27/18 11:19	1
1,1-Dichloroethene	0.77	J	1.0	0.23	ug/L			06/27/18 11:19	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 11:19	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 11:19	1
Acetone	8.1	J	10	1.9	ug/L			06/27/18 11:19	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 11:19	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 11:19	1
cis-1,2-Dichloroethene	27		1.0	0.15	ug/L			06/27/18 11:19	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 11:19	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 11:19	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 11:19	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 11:19	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 11:19	1
Tetrachloroethene	180	E	1.0	0.20	ug/L			06/27/18 11:19	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 11:19	1
trans-1,2-Dichloroethene	1.0		1.0	0.15	ug/L			06/27/18 11:19	1
Trichloroethene	20		1.0	0.16	ug/L			06/27/18 11:19	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 11:19	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 11:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 127		06/27/18 11:19	1
4-Bromofluorobenzene (Surr)	101		78 - 120		06/27/18 11:19	1
Dibromofluoromethane (Surr)	97		77 - 120		06/27/18 11:19	1
Toluene-d8 (Surr)	101		80 - 125		06/27/18 11:19	1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	210		10	2.0	ug/L			06/27/18 11:40	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 127		06/27/18 11:40	10
4-Bromofluorobenzene (Surr)	99		78 - 120		06/27/18 11:40	10
Dibromofluoromethane (Surr)	96		77 - 120		06/27/18 11:40	10
Toluene-d8 (Surr)	102		80 - 125		06/27/18 11:40	10

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	22		3.0	0.25	mg/L			07/05/18 15:16	1
Total Organic Carbon - Average	3.6	B	1.0	0.16	mg/L			06/28/18 03:38	1

**Client Sample ID: AFDV-111**

**Date Collected: 06/13/18 11:20**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	8100		200	32	ug/L			06/27/18 12:00	200
1,1-Dichloroethane	4200		200	44	ug/L			06/27/18 12:00	200

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-111**

**Lab Sample ID: 280-110943-2**

**Date Collected: 06/13/18 11:20**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethene</b>	<b>630</b>		200	46	ug/L			06/27/18 12:00	200
1,2-Dichloroethane	ND		200	26	ug/L			06/27/18 12:00	200
Methyl ethyl ketone (MEK)	ND		1200	400	ug/L			06/27/18 12:00	200
Acetone	ND		2000	380	ug/L			06/27/18 12:00	200
Benzene	ND		200	32	ug/L			06/27/18 12:00	200
Chloroethane	ND		400	82	ug/L			06/27/18 12:00	200
<b>cis-1,2-Dichloroethene</b>	<b>62000</b>	<b>E</b>	200	30	ug/L			06/27/18 12:00	200
<b>Ethylbenzene</b>	<b>1700</b>		200	32	ug/L			06/27/18 12:00	200
<b>Methylene Chloride</b>	<b>340</b>	<b>J</b>	400	64	ug/L			06/27/18 12:00	200
<b>m-Xylene &amp; p-Xylene</b>	<b>2800</b>		400	68	ug/L			06/27/18 12:00	200
<b>o-Xylene</b>	<b>1300</b>		200	38	ug/L			06/27/18 12:00	200
Styrene	ND		200	34	ug/L			06/27/18 12:00	200
<b>Tetrachloroethene</b>	<b>45</b>	<b>J</b>	200	40	ug/L			06/27/18 12:00	200
<b>Toluene</b>	<b>4400</b>		200	34	ug/L			06/27/18 12:00	200
<b>trans-1,2-Dichloroethene</b>	<b>150</b>	<b>J</b>	200	30	ug/L			06/27/18 12:00	200
Trichloroethene	ND		200	32	ug/L			06/27/18 12:00	200
<b>Vinyl chloride</b>	<b>2600</b>		200	20	ug/L			06/27/18 12:00	200
<b>Xylenes, Total</b>	<b>4100</b>		400	38	ug/L			06/27/18 12:00	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 127		06/27/18 12:00	200
4-Bromofluorobenzene (Surr)	97		78 - 120		06/27/18 12:00	200
Dibromofluoromethane (Surr)	99		77 - 120		06/27/18 12:00	200
Toluene-d8 (Surr)	100		80 - 125		06/27/18 12:00	200

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>80000</b>		2000	300	ug/L			06/27/18 12:39	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 127		06/27/18 12:39	2000
4-Bromofluorobenzene (Surr)	98		78 - 120		06/27/18 12:39	2000
Dibromofluoromethane (Surr)	101		77 - 120		06/27/18 12:39	2000
Toluene-d8 (Surr)	101		80 - 125		06/27/18 12:39	2000

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>130</b>		3.0	0.25	mg/L			07/05/18 15:34	1
<b>Total Organic Carbon - Average</b>	<b>6.1</b>	<b>B</b>	1.0	0.16	mg/L			06/28/18 01:00	1

**Client Sample ID: AFDV-121**

**Lab Sample ID: 280-110943-3**

**Date Collected: 06/13/18 10:05**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 09:58	1
<b>1,1-Dichloroethene</b>	<b>44</b>		1.0	0.22	ug/L			06/27/18 09:58	1
<b>1,1-Dichloroethene</b>	<b>4.1</b>		1.0	0.23	ug/L			06/27/18 09:58	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 09:58	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 09:58	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-121**

**Lab Sample ID: 280-110943-3**

**Date Collected: 06/13/18 10:05**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.8	J	10	1.9	ug/L			06/27/18 09:58	1
Benzene	1.6		1.0	0.16	ug/L			06/27/18 09:58	1
Chloroethane	1.8	J	2.0	0.41	ug/L			06/27/18 09:58	1
cis-1,2-Dichloroethene	290	E	1.0	0.15	ug/L			06/27/18 09:58	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 09:58	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 09:58	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 09:58	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 09:58	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 09:58	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 09:58	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 09:58	1
trans-1,2-Dichloroethene	0.59	J	1.0	0.15	ug/L			06/27/18 09:58	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 09:58	1
Vinyl chloride	310	E	1.0	0.10	ug/L			06/27/18 09:58	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 09:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127					06/27/18 09:58	1
4-Bromofluorobenzene (Surr)	99		78 - 120					06/27/18 09:58	1
Dibromofluoromethane (Surr)	98		77 - 120					06/27/18 09:58	1
Toluene-d8 (Surr)	104		80 - 125					06/27/18 09:58	1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	340		10	1.5	ug/L			06/27/18 10:18	10
Vinyl chloride	400		10	1.0	ug/L			06/27/18 10:18	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 127					06/27/18 10:18	10
4-Bromofluorobenzene (Surr)	98		78 - 120					06/27/18 10:18	10
Dibromofluoromethane (Surr)	98		77 - 120					06/27/18 10:18	10
Toluene-d8 (Surr)	103		80 - 125					06/27/18 10:18	10

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	400		5.0	0.22	ug/L			06/25/18 19:42	1
Ethene	32		5.0	0.40	ug/L			06/25/18 19:42	1
Ethane	31		5.0	0.57	ug/L			06/25/18 19:42	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		3.0	0.25	mg/L			07/05/18 15:52	1
Nitrate as N	ND		0.50	0.042	mg/L			06/14/18 17:26	1
Sulfate	110		5.0	0.23	mg/L			07/05/18 15:52	1
Total Organic Carbon - Average	2.3	B	1.0	0.16	mg/L			06/28/18 06:00	1
Alkalinity	350	B	5.0	1.1	mg/L			06/23/18 14:00	1
Sulfide	ND		1.0	0.50	mg/L			06/18/18 07:45	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/22/18 08:29	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-130**

**Lab Sample ID: 280-110943-4**

**Date Collected: 06/13/18 10:00**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 13:00	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 13:00	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 13:00	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 13:00	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 13:00	1
Acetone	2.8	J	10	1.9	ug/L			06/27/18 13:00	1
Benzene	7.8		1.0	0.16	ug/L			06/27/18 13:00	1
Chloroethane	200	E	2.0	0.41	ug/L			06/27/18 13:00	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 13:00	1
Ethylbenzene	7.4		1.0	0.16	ug/L			06/27/18 13:00	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 13:00	1
m-Xylene & p-Xylene	29		2.0	0.34	ug/L			06/27/18 13:00	1
o-Xylene	7.6		1.0	0.19	ug/L			06/27/18 13:00	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 13:00	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 13:00	1
Toluene	0.97	J	1.0	0.17	ug/L			06/27/18 13:00	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 13:00	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 13:00	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 13:00	1
Xylenes, Total	37		2.0	0.19	ug/L			06/27/18 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 127		06/27/18 13:00	1
4-Bromofluorobenzene (Surr)	102		78 - 120		06/27/18 13:00	1
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 13:00	1
Toluene-d8 (Surr)	103		80 - 125		06/27/18 13:00	1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	200		8.0	1.6	ug/L			06/27/18 13:20	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 127		06/27/18 13:20	4
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 13:20	4
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 13:20	4
Toluene-d8 (Surr)	102		80 - 125		06/27/18 13:20	4

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	7300		5.0	0.22	ug/L			06/25/18 21:47	1
Ethene	ND		5.0	0.40	ug/L			06/25/18 21:47	1
Ethane	2000		90	10	ug/L			06/26/18 21:56	18

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		3.0	0.25	mg/L			07/05/18 17:03	1
Nitrate as N	ND		0.50	0.042	mg/L			06/14/18 19:53	1
Sulfate	9.2		5.0	0.23	mg/L			07/05/18 17:03	1
Total Organic Carbon - Average	6.8	B	1.0	0.16	mg/L			06/28/18 03:57	1
Alkalinity	570	B	5.0	1.1	mg/L			06/23/18 14:08	1
Sulfide	ND		1.0	0.50	mg/L			06/18/18 07:45	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-130**

**Date Collected: 06/13/18 10:00**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-4**

**Matrix: Water**

## General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	0.54	J HF	1.0	0.11	mg/L			06/22/18 08:29	5

**Client Sample ID: AFDV-144**

**Date Collected: 06/13/18 12:00**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-5**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 13:41	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 13:41	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 13:41	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 13:41	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 13:41	1
Acetone	7.4	J	10	1.9	ug/L			06/27/18 13:41	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 13:41	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 13:41	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 13:41	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 13:41	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 13:41	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 13:41	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 13:41	1
Styrene	0.61	J	1.0	0.17	ug/L			06/27/18 13:41	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 13:41	1
Toluene	0.33	J	1.0	0.17	ug/L			06/27/18 13:41	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 13:41	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 13:41	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 13:41	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		06/27/18 13:41	1
4-Bromofluorobenzene (Surr)	96		78 - 120		06/27/18 13:41	1
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 13:41	1
Toluene-d8 (Surr)	101		80 - 125		06/27/18 13:41	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.64	J	5.0	0.22	ug/L			06/25/18 22:01	1
Ethene	ND		5.0	0.40	ug/L			06/25/18 22:01	1
Ethane	ND		5.0	0.57	ug/L			06/25/18 22:01	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			07/05/18 17:21	1
Nitrate as N	ND		0.50	0.042	mg/L			06/14/18 20:16	1
Sulfate	ND		5.0	0.23	mg/L			07/05/18 17:21	1
Total Organic Carbon - Average	0.29	J B	1.0	0.16	mg/L			06/28/18 03:05	1
Alkalinity	3.9	J B	5.0	1.1	mg/L			06/23/18 14:13	1
Sulfide	ND		1.0	0.50	mg/L			06/18/18 07:45	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/22/18 08:31	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-114**

**Lab Sample ID: 280-110943-6**

**Date Collected: 06/13/18 14:50**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	89		10	1.6	ug/L			06/27/18 14:01	10
1,1-Dichloroethane	140		10	2.2	ug/L			06/27/18 14:01	10
1,1-Dichloroethene	ND		10	2.3	ug/L			06/27/18 14:01	10
1,2-Dichloroethane	ND		10	1.3	ug/L			06/27/18 14:01	10
Methyl ethyl ketone (MEK)	ND		60	20	ug/L			06/27/18 14:01	10
Acetone	ND		100	19	ug/L			06/27/18 14:01	10
Benzene	28		10	1.6	ug/L			06/27/18 14:01	10
Chloroethane	220		20	4.1	ug/L			06/27/18 14:01	10
cis-1,2-Dichloroethene	240		10	1.5	ug/L			06/27/18 14:01	10
Ethylbenzene	320		10	1.6	ug/L			06/27/18 14:01	10
Methylene Chloride	6.2 J		20	3.2	ug/L			06/27/18 14:01	10
m-Xylene & p-Xylene	360		20	3.4	ug/L			06/27/18 14:01	10
o-Xylene	180		10	1.9	ug/L			06/27/18 14:01	10
Styrene	ND		10	1.7	ug/L			06/27/18 14:01	10
Tetrachloroethene	ND		10	2.0	ug/L			06/27/18 14:01	10
Toluene	1100 E		10	1.7	ug/L			06/27/18 14:01	10
trans-1,2-Dichloroethene	3.0 J		10	1.5	ug/L			06/27/18 14:01	10
Trichloroethene	ND		10	1.6	ug/L			06/27/18 14:01	10
Vinyl chloride	470		10	1.0	ug/L			06/27/18 14:01	10
Xylenes, Total	540		20	1.9	ug/L			06/27/18 14:01	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		06/27/18 14:01	10
4-Bromofluorobenzene (Surr)	97		78 - 120		06/27/18 14:01	10
Dibromofluoromethane (Surr)	97		77 - 120		06/27/18 14:01	10
Toluene-d8 (Surr)	99		80 - 125		06/27/18 14:01	10

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	3400		100	17	ug/L			06/27/18 14:22	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		06/27/18 14:22	100
4-Bromofluorobenzene (Surr)	99		78 - 120		06/27/18 14:22	100
Dibromofluoromethane (Surr)	96		77 - 120		06/27/18 14:22	100
Toluene-d8 (Surr)	100		80 - 125		06/27/18 14:22	100

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		3.0	0.25	mg/L			07/05/18 17:39	1
Total Organic Carbon - Average	5.7 B		1.0	0.16	mg/L			06/28/18 04:16	1

**Client Sample ID: AFDV-140**

**Lab Sample ID: 280-110943-7**

**Date Collected: 06/13/18 14:10**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	59		10	1.6	ug/L			06/27/18 14:42	10
1,1-Dichloroethane	54		10	2.2	ug/L			06/27/18 14:42	10
1,1-Dichloroethene	20		10	2.3	ug/L			06/27/18 14:42	10

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-140**

**Lab Sample ID: 280-110943-7**

**Date Collected: 06/13/18 14:10**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		10	1.3	ug/L			06/27/18 14:42	10
Methyl ethyl ketone (MEK)	ND		60	20	ug/L			06/27/18 14:42	10
Acetone	ND		100	19	ug/L			06/27/18 14:42	10
Benzene	ND		10	1.6	ug/L			06/27/18 14:42	10
Chloroethane	ND		20	4.1	ug/L			06/27/18 14:42	10
cis-1,2-Dichloroethene	3200	E	10	1.5	ug/L			06/27/18 14:42	10
Ethylbenzene	150		10	1.6	ug/L			06/27/18 14:42	10
Methylene Chloride	ND		20	3.2	ug/L			06/27/18 14:42	10
m-Xylene & p-Xylene	7.9	J	20	3.4	ug/L			06/27/18 14:42	10
o-Xylene	8.2	J	10	1.9	ug/L			06/27/18 14:42	10
Styrene	ND		10	1.7	ug/L			06/27/18 14:42	10
Tetrachloroethene	3.0	J	10	2.0	ug/L			06/27/18 14:42	10
Toluene	14		10	1.7	ug/L			06/27/18 14:42	10
trans-1,2-Dichloroethene	11		10	1.5	ug/L			06/27/18 14:42	10
Trichloroethene	8.0	J	10	1.6	ug/L			06/27/18 14:42	10
Vinyl chloride	290		10	1.0	ug/L			06/27/18 14:42	10
Xylenes, Total	16	J	20	1.9	ug/L			06/27/18 14:42	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		06/27/18 14:42	10
4-Bromofluorobenzene (Surr)	98		78 - 120		06/27/18 14:42	10
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 14:42	10
Toluene-d8 (Surr)	101		80 - 125		06/27/18 14:42	10

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	4200		100	15	ug/L			06/27/18 15:03	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 127		06/27/18 15:03	100
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 15:03	100
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 15:03	100
Toluene-d8 (Surr)	103		80 - 125		06/27/18 15:03	100

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	83		3.0	0.25	mg/L			07/05/18 17:57	1
Total Organic Carbon - Average	2.9	B	1.0	0.16	mg/L			06/28/18 05:42	1

**Client Sample ID: AFDV-115**

**Lab Sample ID: 280-110943-8**

**Date Collected: 06/13/18 14:55**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	88		10	1.6	ug/L			06/27/18 15:24	10
1,1-Dichloroethane	140		10	2.2	ug/L			06/27/18 15:24	10
1,1-Dichloroethene	ND		10	2.3	ug/L			06/27/18 15:24	10
1,2-Dichloroethane	ND		10	1.3	ug/L			06/27/18 15:24	10
Methyl ethyl ketone (MEK)	ND		60	20	ug/L			06/27/18 15:24	10
Acetone	ND		100	19	ug/L			06/27/18 15:24	10

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-115**

**Lab Sample ID: 280-110943-8**

**Date Collected: 06/13/18 14:55**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	30		10	1.6	ug/L			06/27/18 15:24	10
Chloroethane	250		20	4.1	ug/L			06/27/18 15:24	10
cis-1,2-Dichloroethene	290		10	1.5	ug/L			06/27/18 15:24	10
Ethylbenzene	330		10	1.6	ug/L			06/27/18 15:24	10
Methylene Chloride	6.3	J	20	3.2	ug/L			06/27/18 15:24	10
m-Xylene & p-Xylene	400		20	3.4	ug/L			06/27/18 15:24	10
o-Xylene	190		10	1.9	ug/L			06/27/18 15:24	10
Styrene	ND		10	1.7	ug/L			06/27/18 15:24	10
Tetrachloroethene	ND		10	2.0	ug/L			06/27/18 15:24	10
Toluene	1200	E	10	1.7	ug/L			06/27/18 15:24	10
trans-1,2-Dichloroethene	3.2	J	10	1.5	ug/L			06/27/18 15:24	10
Trichloroethene	ND		10	1.6	ug/L			06/27/18 15:24	10
Vinyl chloride	550		10	1.0	ug/L			06/27/18 15:24	10
Xylenes, Total	590		20	1.9	ug/L			06/27/18 15:24	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 127		06/27/18 15:24	10
4-Bromofluorobenzene (Surr)	97		78 - 120		06/27/18 15:24	10
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 15:24	10
Toluene-d8 (Surr)	99		80 - 125		06/27/18 15:24	10

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	3900		100	17	ug/L			06/27/18 15:44	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		06/27/18 15:44	100
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 15:44	100
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 15:44	100
Toluene-d8 (Surr)	101		80 - 125		06/27/18 15:44	100

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		3.0	0.25	mg/L			07/05/18 18:50	1
Total Organic Carbon - Average	5.6	B	1.0	0.16	mg/L			06/28/18 05:25	1

**Client Sample ID: AFDV-138**

**Lab Sample ID: 280-110943-9**

**Date Collected: 06/13/18 14:30**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	40		1.0	0.16	ug/L			06/27/18 20:06	1
1,1-Dichloroethane	100	E	1.0	0.22	ug/L			06/27/18 20:06	1
1,1-Dichloroethene	0.34	J	1.0	0.23	ug/L			06/27/18 20:06	1
1,2-Dichloroethane	0.58	J	1.0	0.13	ug/L			06/27/18 20:06	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 20:06	1
Acetone	8.7	J	10	1.9	ug/L			06/27/18 20:06	1
Benzene	0.53	J	1.0	0.16	ug/L			06/27/18 20:06	1
Chloroethane	8.3		2.0	0.41	ug/L			06/27/18 20:06	1
cis-1,2-Dichloroethene	140	E	1.0	0.15	ug/L			06/27/18 20:06	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-138**

**Lab Sample ID: 280-110943-9**

**Date Collected: 06/13/18 14:30**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.18	J	1.0	0.16	ug/L			06/27/18 20:06	1
Methylene Chloride	0.35	J B	2.0	0.32	ug/L			06/27/18 20:06	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 20:06	1
o-Xylene	0.87	J	1.0	0.19	ug/L			06/27/18 20:06	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 20:06	1
Tetrachloroethene	0.88	J	1.0	0.20	ug/L			06/27/18 20:06	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 20:06	1
trans-1,2-Dichloroethene	0.77	J	1.0	0.15	ug/L			06/27/18 20:06	1
Trichloroethene	0.80	J	1.0	0.16	ug/L			06/27/18 20:06	1
Vinyl chloride	230	E	1.0	0.10	ug/L			06/27/18 20:06	1
Xylenes, Total	0.87	J	2.0	0.19	ug/L			06/27/18 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 127		06/27/18 20:06	1
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 20:06	1
Dibromofluoromethane (Surr)	90		77 - 120		06/27/18 20:06	1
Toluene-d8 (Surr)	102		80 - 125		06/27/18 20:06	1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	100		4.0	0.88	ug/L			06/27/18 21:05	4
cis-1,2-Dichloroethene	140		4.0	0.60	ug/L			06/27/18 21:05	4
Vinyl chloride	230		4.0	0.40	ug/L			06/27/18 21:05	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/27/18 21:05	4
4-Bromofluorobenzene (Surr)	90		78 - 120		06/27/18 21:05	4
Dibromofluoromethane (Surr)	93		77 - 120		06/27/18 21:05	4
Toluene-d8 (Surr)	97		80 - 125		06/27/18 21:05	4

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	48		3.0	0.25	mg/L			07/05/18 19:08	1
Total Organic Carbon - Average	6.9	B	1.0	0.16	mg/L			06/28/18 02:04	1

**Client Sample ID: AFDV-107**

**Lab Sample ID: 280-110943-10**

**Date Collected: 06/13/18 16:09**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.6	J	10	1.6	ug/L			06/27/18 16:05	10
1,1-Dichloroethane	2.5	J	10	2.2	ug/L			06/27/18 16:05	10
1,1-Dichloroethene	ND		10	2.3	ug/L			06/27/18 16:05	10
1,2-Dichloroethane	ND		10	1.3	ug/L			06/27/18 16:05	10
Methyl ethyl ketone (MEK)	ND		60	20	ug/L			06/27/18 16:05	10
Acetone	ND		100	19	ug/L			06/27/18 16:05	10
Benzene	ND		10	1.6	ug/L			06/27/18 16:05	10
Chloroethane	ND		20	4.1	ug/L			06/27/18 16:05	10
cis-1,2-Dichloroethene	1000	E	10	1.5	ug/L			06/27/18 16:05	10
Ethylbenzene	ND		10	1.6	ug/L			06/27/18 16:05	10

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-107**

**Lab Sample ID: 280-110943-10**

**Date Collected: 06/13/18 16:09**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		20	3.2	ug/L			06/27/18 16:05	10
m-Xylene & p-Xylene	ND		20	3.4	ug/L			06/27/18 16:05	10
o-Xylene	ND		10	1.9	ug/L			06/27/18 16:05	10
Styrene	ND		10	1.7	ug/L			06/27/18 16:05	10
<b>Tetrachloroethene</b>	<b>2600</b>	<b>E</b>	10	2.0	ug/L			06/27/18 16:05	10
Toluene	ND		10	1.7	ug/L			06/27/18 16:05	10
<b>trans-1,2-Dichloroethene</b>	<b>4.0</b>	<b>J</b>	10	1.5	ug/L			06/27/18 16:05	10
<b>Trichloroethene</b>	<b>180</b>		10	1.6	ug/L			06/27/18 16:05	10
<b>Vinyl chloride</b>	<b>39</b>		10	1.0	ug/L			06/27/18 16:05	10
Xylenes, Total	ND		20	1.9	ug/L			06/27/18 16:05	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		06/27/18 16:05	10
4-Bromofluorobenzene (Surr)	99		78 - 120		06/27/18 16:05	10
Dibromofluoromethane (Surr)	100		77 - 120		06/27/18 16:05	10
Toluene-d8 (Surr)	99		80 - 125		06/27/18 16:05	10

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>1000</b>		100	15	ug/L			06/27/18 16:25	100
<b>Tetrachloroethene</b>	<b>2600</b>		100	20	ug/L			06/27/18 16:25	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		06/27/18 16:25	100
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 16:25	100
Dibromofluoromethane (Surr)	98		77 - 120		06/27/18 16:25	100
Toluene-d8 (Surr)	102		80 - 125		06/27/18 16:25	100

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>9.3</b>		3.0	0.25	mg/L			07/10/18 02:33	1
<b>Total Organic Carbon - Average</b>	<b>6.6</b>	<b>B</b>	1.0	0.16	mg/L			06/28/18 04:34	1

**Client Sample ID: AFDV-143**

**Lab Sample ID: 280-110943-11**

**Date Collected: 06/13/18 16:40**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>63</b>	<b>J</b>	150	13	mg/L			07/10/18 02:55	50

**Client Sample ID: AFDV-109**

**Lab Sample ID: 280-110943-12**

**Date Collected: 06/13/18 10:05**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1,1-Trichloroethane</b>	<b>0.17</b>	<b>J</b>	1.0	0.16	ug/L			06/27/18 17:12	1
<b>1,1-Dichloroethane</b>	<b>0.22</b>	<b>J</b>	1.0	0.22	ug/L			06/27/18 17:12	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 17:12	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 17:12	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-109**

**Lab Sample ID: 280-110943-12**

**Date Collected: 06/13/18 10:05**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 17:12	1
<b>Acetone</b>	<b>5.0</b>	<b>J</b>	10	1.9	ug/L			06/27/18 17:12	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 17:12	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 17:12	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 17:12	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 17:12	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 17:12	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 17:12	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 17:12	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 17:12	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 17:12	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 17:12	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 17:12	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 17:12	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 17:12	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 127		06/27/18 17:12	1
4-Bromofluorobenzene (Surr)	99		78 - 120		06/27/18 17:12	1
Dibromofluoromethane (Surr)	99		77 - 120		06/27/18 17:12	1
Toluene-d8 (Surr)	101		80 - 125		06/27/18 17:12	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>0.58</b>	<b>J</b>	5.0	0.22	ug/L			06/25/18 22:15	1
Ethene	ND		5.0	0.40	ug/L			06/25/18 22:15	1
Ethane	ND		5.0	0.57	ug/L			06/25/18 22:15	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>44</b>		3.0	0.25	mg/L			07/10/18 03:17	1
<b>Nitrate as N</b>	<b>2.6</b>		0.50	0.042	mg/L			06/14/18 20:38	1
<b>Sulfate</b>	<b>64</b>		5.0	0.23	mg/L			07/10/18 03:17	1
<b>Total Organic Carbon - Average</b>	<b>1.7</b>	<b>B</b>	1.0	0.16	mg/L			06/28/18 07:47	1
<b>Alkalinity</b>	<b>310</b>	<b>B</b>	5.0	1.1	mg/L			06/23/18 14:19	1
Sulfide	ND		1.0	0.50	mg/L			06/18/18 07:45	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/22/18 08:31	1

**Client Sample ID: AFDV-101**

**Lab Sample ID: 280-110943-13**

**Date Collected: 06/13/18 10:15**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 17:32	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 17:32	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 17:32	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 17:32	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 17:32	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-101**

**Lab Sample ID: 280-110943-13**

**Date Collected: 06/13/18 10:15**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	6.0	J	10	1.9	ug/L			06/27/18 17:32	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 17:32	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 17:32	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 17:32	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 17:32	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 17:32	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 17:32	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 17:32	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 17:32	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 17:32	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 17:32	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 17:32	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 17:32	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 17:32	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 17:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 127					06/27/18 17:32	1
4-Bromofluorobenzene (Surr)	100		78 - 120					06/27/18 17:32	1
Dibromofluoromethane (Surr)	100		77 - 120					06/27/18 17:32	1
Toluene-d8 (Surr)	102		80 - 125					06/27/18 17:32	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.62	J	5.0	0.22	ug/L			06/25/18 22:29	1
Ethene	ND		5.0	0.40	ug/L			06/25/18 22:29	1
Ethane	ND		5.0	0.57	ug/L			06/25/18 22:29	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42		3.0	0.25	mg/L			07/10/18 03:40	1
Nitrate as N	5.7		0.50	0.042	mg/L			06/14/18 21:00	1
Sulfate	41		5.0	0.23	mg/L			07/10/18 03:40	1
Total Organic Carbon - Average	2.2	B	1.0	0.16	mg/L			06/28/18 07:28	1
Alkalinity	240	B	5.0	1.1	mg/L			06/23/18 14:25	1
Sulfide	ND		1.0	0.50	mg/L			06/18/18 07:45	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/22/18 08:31	1

**Client Sample ID: AFDV-117**

**Lab Sample ID: 280-110943-14**

**Date Collected: 06/13/18 11:40**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 17:53	1
1,1-Dichloroethane	0.45	J	1.0	0.22	ug/L			06/27/18 17:53	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 17:53	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 17:53	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 17:53	1
Acetone	5.7	J	10	1.9	ug/L			06/27/18 17:53	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-117**

**Lab Sample ID: 280-110943-14**

**Date Collected: 06/13/18 11:40**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			06/27/18 17:53	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 17:53	1
<b>cis-1,2-Dichloroethene</b>	<b>1.8</b>		1.0	0.15	ug/L			06/27/18 17:53	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 17:53	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 17:53	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 17:53	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 17:53	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 17:53	1
<b>Tetrachloroethene</b>	<b>0.26</b>	<b>J</b>	1.0	0.20	ug/L			06/27/18 17:53	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 17:53	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 17:53	1
<b>Trichloroethene</b>	<b>0.32</b>	<b>J</b>	1.0	0.16	ug/L			06/27/18 17:53	1
<b>Vinyl chloride</b>	<b>0.21</b>	<b>J</b>	1.0	0.10	ug/L			06/27/18 17:53	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 127		06/27/18 17:53	1
4-Bromofluorobenzene (Surr)	99		78 - 120		06/27/18 17:53	1
Dibromofluoromethane (Surr)	101		77 - 120		06/27/18 17:53	1
Toluene-d8 (Surr)	101		80 - 125		06/27/18 17:53	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>94</b>	<b>B</b>	5.0	0.22	ug/L			06/26/18 14:17	1
Ethene	ND		5.0	0.40	ug/L			06/26/18 14:17	1
Ethane	ND		5.0	0.57	ug/L			06/26/18 14:17	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>23</b>		3.0	0.25	mg/L			07/10/18 04:02	1
Nitrate as N	ND		0.50	0.042	mg/L			06/14/18 21:22	1
<b>Sulfate</b>	<b>46</b>		5.0	0.23	mg/L			07/10/18 04:02	1
<b>Total Organic Carbon - Average</b>	<b>3.4</b>	<b>B</b>	1.0	0.16	mg/L			06/28/18 03:21	1
<b>Alkalinity</b>	<b>440</b>	<b>B</b>	5.0	1.1	mg/L			06/23/18 14:33	1
Sulfide	ND		1.0	0.50	mg/L			06/18/18 07:45	1
Ferrous Iron	ND	HF	0.20	0.021	mg/L			06/22/18 08:31	1

**Client Sample ID: AFDV-113**

**Lab Sample ID: 280-110943-15**

**Date Collected: 06/13/18 15:45**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1,1-Trichloroethane</b>	<b>2400</b>		500	80	ug/L			06/27/18 18:13	500
<b>1,1-Dichloroethane</b>	<b>1000</b>		500	110	ug/L			06/27/18 18:13	500
<b>1,1-Dichloroethene</b>	<b>550</b>		500	120	ug/L			06/27/18 18:13	500
1,2-Dichloroethane	ND		500	65	ug/L			06/27/18 18:13	500
Methyl ethyl ketone (MEK)	ND		3000	1000	ug/L			06/27/18 18:13	500
Acetone	ND		5000	950	ug/L			06/27/18 18:13	500
Benzene	ND		500	80	ug/L			06/27/18 18:13	500

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-113**

**Lab Sample ID: 280-110943-15**

**Date Collected: 06/13/18 15:45**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1000	210	ug/L			06/27/18 18:13	500
cis-1,2-Dichloroethene	130000	E	500	75	ug/L			06/27/18 18:13	500
Ethylbenzene	220	J	500	80	ug/L			06/27/18 18:13	500
Methylene Chloride	230	J	1000	160	ug/L			06/27/18 18:13	500
m-Xylene & p-Xylene	370	J	1000	170	ug/L			06/27/18 18:13	500
o-Xylene	260	J	500	95	ug/L			06/27/18 18:13	500
Styrene	ND		500	85	ug/L			06/27/18 18:13	500
Tetrachloroethene	1300		500	100	ug/L			06/27/18 18:13	500
Toluene	760		500	85	ug/L			06/27/18 18:13	500
trans-1,2-Dichloroethene	300	J	500	75	ug/L			06/27/18 18:13	500
Trichloroethene	1500		500	80	ug/L			06/27/18 18:13	500
Vinyl chloride	4700		500	50	ug/L			06/27/18 18:13	500
Xylenes, Total	630	J	1000	95	ug/L			06/27/18 18:13	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 127		06/27/18 18:13	500
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 18:13	500
Dibromofluoromethane (Surr)	100		77 - 120		06/27/18 18:13	500
Toluene-d8 (Surr)	102		80 - 125		06/27/18 18:13	500

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	150000		5000	750	ug/L			06/27/18 18:34	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 127		06/27/18 18:34	5000
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 18:34	5000
Dibromofluoromethane (Surr)	100		77 - 120		06/27/18 18:34	5000
Toluene-d8 (Surr)	102		80 - 125		06/27/18 18:34	5000

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	510		15	1.3	mg/L			07/11/18 11:31	5
Total Organic Carbon - Average	8.5	B	1.0	0.16	mg/L			06/28/18 01:15	1

**Client Sample ID: AFDV-139**

**Lab Sample ID: 280-110943-16**

**Date Collected: 06/13/18 14:20**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	H	1.0	0.16	ug/L			07/03/18 16:04	1
1,1-Dichloroethane	14	H	1.0	0.22	ug/L			07/03/18 16:04	1
1,1-Dichloroethene	ND	H	1.0	0.23	ug/L			07/03/18 16:04	1
1,2-Dichloroethane	1.6	H	1.0	0.13	ug/L			07/03/18 16:04	1
Methyl ethyl ketone (MEK)	ND	H	6.0	2.0	ug/L			07/03/18 16:04	1
Acetone	6.8	J H	10	1.9	ug/L			07/03/18 16:04	1
Benzene	2.2	H	1.0	0.16	ug/L			07/03/18 16:04	1
Chloroethane	13	H	2.0	0.41	ug/L			07/03/18 16:04	1
cis-1,2-Dichloroethene	12	H	1.0	0.15	ug/L			07/03/18 16:04	1
Ethylbenzene	ND	H	1.0	0.16	ug/L			07/03/18 16:04	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-139**

**Lab Sample ID: 280-110943-16**

**Date Collected: 06/13/18 14:20**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	H	2.0	0.32	ug/L			07/03/18 16:04	1
m-Xylene & p-Xylene	ND	H	2.0	0.34	ug/L			07/03/18 16:04	1
o-Xylene	ND	H	1.0	0.19	ug/L			07/03/18 16:04	1
Styrene	ND	H	1.0	0.17	ug/L			07/03/18 16:04	1
Tetrachloroethene	ND	H	1.0	0.20	ug/L			07/03/18 16:04	1
Toluene	ND	H	1.0	0.17	ug/L			07/03/18 16:04	1
trans-1,2-Dichloroethene	ND	H	1.0	0.15	ug/L			07/03/18 16:04	1
Trichloroethene	ND	H	1.0	0.16	ug/L			07/03/18 16:04	1
<b>Vinyl chloride</b>	<b>21</b>	<b>H</b>	1.0	0.10	ug/L			07/03/18 16:04	1
Xylenes, Total	ND	H	2.0	0.19	ug/L			07/03/18 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 127		07/03/18 16:04	1
4-Bromofluorobenzene (Surr)	113		78 - 120		07/03/18 16:04	1
Dibromofluoromethane (Surr)	95		77 - 120		07/03/18 16:04	1
Toluene-d8 (Surr)	107		80 - 125		07/03/18 16:04	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>37</b>		3.0	0.25	mg/L			07/10/18 04:46	1
<b>Total Organic Carbon - Average</b>	<b>3.9</b>	<b>B</b>	1.0	0.16	mg/L			06/28/18 02:50	1

**Client Sample ID: AFDV-141**

**Lab Sample ID: 280-110943-17**

**Date Collected: 06/13/18 15:40**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1,1-Trichloroethane</b>	<b>27000</b>	<b>H E</b>	400	64	ug/L			07/14/18 04:43	400
<b>1,1-Dichloroethane</b>	<b>10000</b>	<b>H</b>	400	88	ug/L			07/14/18 04:43	400
<b>1,1-Dichloroethene</b>	<b>1400</b>	<b>H</b>	400	92	ug/L			07/14/18 04:43	400
1,2-Dichloroethane	ND	H	400	52	ug/L			07/14/18 04:43	400
Methyl ethyl ketone (MEK)	ND	H	2400	800	ug/L			07/14/18 04:43	400
<b>Acetone</b>	<b>2200</b>	<b>J H</b>	4000	760	ug/L			07/14/18 04:43	400
Benzene	ND	H	400	64	ug/L			07/14/18 04:43	400
Chloroethane	ND	H	800	160	ug/L			07/14/18 04:43	400
<b>cis-1,2-Dichloroethene</b>	<b>76000</b>	<b>H E</b>	400	60	ug/L			07/14/18 04:43	400
<b>Ethylbenzene</b>	<b>2100</b>	<b>H</b>	400	64	ug/L			07/14/18 04:43	400
<b>Methylene Chloride</b>	<b>120000</b>	<b>H E</b>	800	130	ug/L			07/14/18 04:43	400
<b>m-Xylene &amp; p-Xylene</b>	<b>3300</b>	<b>H</b>	800	140	ug/L			07/14/18 04:43	400
<b>o-Xylene</b>	<b>1300</b>	<b>H</b>	400	76	ug/L			07/14/18 04:43	400
Styrene	ND	H	400	68	ug/L			07/14/18 04:43	400
<b>Tetrachloroethene</b>	<b>450</b>	<b>H</b>	400	80	ug/L			07/14/18 04:43	400
<b>Toluene</b>	<b>23000</b>	<b>H</b>	400	68	ug/L			07/14/18 04:43	400
<b>trans-1,2-Dichloroethene</b>	<b>93</b>	<b>J H</b>	400	60	ug/L			07/14/18 04:43	400
<b>Trichloroethene</b>	<b>1000</b>	<b>H</b>	400	64	ug/L			07/14/18 04:43	400
<b>Vinyl chloride</b>	<b>23000</b>	<b>H</b>	400	40	ug/L			07/14/18 04:43	400
<b>Xylenes, Total</b>	<b>4600</b>	<b>H</b>	800	76	ug/L			07/14/18 04:43	400

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-141**

**Date Collected: 06/13/18 15:40**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-17**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 127		07/14/18 04:43	400
4-Bromofluorobenzene (Surr)	90		78 - 120		07/14/18 04:43	400
Dibromofluoromethane (Surr)	108		77 - 120		07/14/18 04:43	400
Toluene-d8 (Surr)	88		80 - 125		07/14/18 04:43	400

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	30000	H	4000	640	ug/L	-		07/14/18 05:04	4000
cis-1,2-Dichloroethene	81000	H	4000	600	ug/L	-		07/14/18 05:04	4000
Methylene Chloride	130000	H	8000	1300	ug/L	-		07/14/18 05:04	4000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 127		07/14/18 05:04	4000
4-Bromofluorobenzene (Surr)	98		78 - 120		07/14/18 05:04	4000
Dibromofluoromethane (Surr)	99		77 - 120		07/14/18 05:04	4000
Toluene-d8 (Surr)	95		80 - 125		07/14/18 05:04	4000

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420		15	1.3	mg/L	-		07/11/18 11:53	5
Total Organic Carbon - Average	14	B	1.0	0.16	mg/L	-		06/28/18 07:12	1

**Client Sample ID: AFDV-142**

**Date Collected: 06/13/18 15:45**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-18**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	24000	H E	400	64	ug/L	-		07/14/18 05:25	400
1,1-Dichloroethane	9100	H	400	88	ug/L	-		07/14/18 05:25	400
1,1-Dichloroethene	1200	H	400	92	ug/L	-		07/14/18 05:25	400
1,2-Dichloroethane	ND	H	400	52	ug/L	-		07/14/18 05:25	400
Methyl ethyl ketone (MEK)	ND	H	2400	800	ug/L	-		07/14/18 05:25	400
Acetone	1400	J H	4000	760	ug/L	-		07/14/18 05:25	400
Benzene	ND	H	400	64	ug/L	-		07/14/18 05:25	400
Chloroethane	ND	H	800	160	ug/L	-		07/14/18 05:25	400
cis-1,2-Dichloroethene	67000	H E	400	60	ug/L	-		07/14/18 05:25	400
Ethylbenzene	2100	H	400	64	ug/L	-		07/14/18 05:25	400
Methylene Chloride	100000	H E	800	130	ug/L	-		07/14/18 05:25	400
m-Xylene & p-Xylene	3500	H	800	140	ug/L	-		07/14/18 05:25	400
o-Xylene	1300	H	400	76	ug/L	-		07/14/18 05:25	400
Styrene	ND	H	400	68	ug/L	-		07/14/18 05:25	400
Tetrachloroethene	470	H	400	80	ug/L	-		07/14/18 05:25	400
Toluene	23000	H	400	68	ug/L	-		07/14/18 05:25	400
trans-1,2-Dichloroethene	66	J H	400	60	ug/L	-		07/14/18 05:25	400
Trichloroethene	980	H	400	64	ug/L	-		07/14/18 05:25	400
Vinyl chloride	21000	H	400	40	ug/L	-		07/14/18 05:25	400
Xylenes, Total	4800	H	800	76	ug/L	-		07/14/18 05:25	400

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 127		07/14/18 05:25	400

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-142**

**Date Collected: 06/13/18 15:45**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-18**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		78 - 120		07/14/18 05:25	400
Dibromofluoromethane (Surr)	98		77 - 120		07/14/18 05:25	400
Toluene-d8 (Surr)	92		80 - 125		07/14/18 05:25	400

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	27000	H	4000	640	ug/L	-		07/14/18 05:46	4000
cis-1,2-Dichloroethene	82000	H	4000	600	ug/L	-		07/14/18 05:46	4000
Methylene Chloride	130000	H	8000	1300	ug/L	-		07/14/18 05:46	4000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127		07/14/18 05:46	4000
4-Bromofluorobenzene (Surr)	91		78 - 120		07/14/18 05:46	4000
Dibromofluoromethane (Surr)	96		77 - 120		07/14/18 05:46	4000
Toluene-d8 (Surr)	90		80 - 125		07/14/18 05:46	4000

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	420		15	1.3	mg/L	-		07/11/18 12:15	5
Total Organic Carbon - Average	14	B	1.0	0.16	mg/L	-		06/28/18 06:53	1

**Client Sample ID: AFDV-105**

**Date Collected: 06/13/18 14:38**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-19**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	12	H	1.0	0.16	ug/L	-		07/14/18 06:06	1
1,1-Dichloroethane	0.42	J H	1.0	0.22	ug/L	-		07/14/18 06:06	1
1,1-Dichloroethene	ND	H	1.0	0.23	ug/L	-		07/14/18 06:06	1
1,2-Dichloroethane	ND	H	1.0	0.13	ug/L	-		07/14/18 06:06	1
Methyl ethyl ketone (MEK)	ND	H	6.0	2.0	ug/L	-		07/14/18 06:06	1
Acetone	ND	H	10	1.9	ug/L	-		07/14/18 06:06	1
Benzene	ND	H	1.0	0.16	ug/L	-		07/14/18 06:06	1
Chloroethane	ND	H	2.0	0.41	ug/L	-		07/14/18 06:06	1
cis-1,2-Dichloroethene	0.72	J H	1.0	0.15	ug/L	-		07/14/18 06:06	1
Ethylbenzene	ND	H	1.0	0.16	ug/L	-		07/14/18 06:06	1
Methylene Chloride	ND	H	2.0	0.32	ug/L	-		07/14/18 06:06	1
m-Xylene & p-Xylene	ND	H	2.0	0.34	ug/L	-		07/14/18 06:06	1
o-Xylene	ND	H	1.0	0.19	ug/L	-		07/14/18 06:06	1
Styrene	ND	H	1.0	0.17	ug/L	-		07/14/18 06:06	1
Tetrachloroethene	30	H	1.0	0.20	ug/L	-		07/14/18 06:06	1
Toluene	ND	H	1.0	0.17	ug/L	-		07/14/18 06:06	1
trans-1,2-Dichloroethene	ND	H	1.0	0.15	ug/L	-		07/14/18 06:06	1
Trichloroethene	12	H	1.0	0.16	ug/L	-		07/14/18 06:06	1
Vinyl chloride	ND	H	1.0	0.10	ug/L	-		07/14/18 06:06	1
Xylenes, Total	ND	H	2.0	0.19	ug/L	-		07/14/18 06:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		07/14/18 06:06	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-105**

**Date Collected: 06/13/18 14:38**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-19**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		78 - 120		07/14/18 06:06	1
Dibromofluoromethane (Surr)	91		77 - 120		07/14/18 06:06	1
Toluene-d8 (Surr)	92		80 - 125		07/14/18 06:06	1

**Client Sample ID: AFDV-149**

**Date Collected: 06/13/18 11:59**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-20**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 08:56	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 08:56	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 08:56	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 08:56	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 08:56	1
Acetone	3.7	J	10	1.9	ug/L			06/27/18 08:56	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 08:56	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 08:56	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 08:56	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 08:56	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 08:56	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 08:56	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 08:56	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 08:56	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 08:56	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 08:56	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 08:56	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 08:56	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 08:56	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 08:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/27/18 08:56	1
4-Bromofluorobenzene (Surr)	98		78 - 120		06/27/18 08:56	1
Dibromofluoromethane (Surr)	92		77 - 120		06/27/18 08:56	1
Toluene-d8 (Surr)	104		80 - 125		06/27/18 08:56	1

**Client Sample ID: AFDV-150**

**Date Collected: 06/13/18 12:00**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-21**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 09:17	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 09:17	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 09:17	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 09:17	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 09:17	1
Acetone	3.9	J	10	1.9	ug/L			06/27/18 09:17	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 09:17	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-150**

**Lab Sample ID: 280-110943-21**

**Date Collected: 06/13/18 12:00**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 09:17	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 09:17	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 09:17	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 09:17	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 09:17	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 09:17	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 09:17	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 09:17	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 09:17	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 09:17	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 09:17	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 09:17	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 09:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		06/27/18 09:17	1
4-Bromofluorobenzene (Surr)	99		78 - 120		06/27/18 09:17	1
Dibromofluoromethane (Surr)	95		77 - 120		06/27/18 09:17	1
Toluene-d8 (Surr)	105		80 - 125		06/27/18 09:17	1

**Client Sample ID: AFDV-151**

**Lab Sample ID: 280-110943-22**

**Date Collected: 06/13/18 16:30**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 09:37	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 09:37	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 09:37	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 09:37	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 09:37	1
Acetone	2.4	J	10	1.9	ug/L			06/27/18 09:37	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 09:37	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 09:37	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 09:37	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 09:37	1
Methylene Chloride	0.34	J	2.0	0.32	ug/L			06/27/18 09:37	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 09:37	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 09:37	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 09:37	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 09:37	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 09:37	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 09:37	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 09:37	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 09:37	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 09:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 127		06/27/18 09:37	1
4-Bromofluorobenzene (Surr)	100		78 - 120		06/27/18 09:37	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-151**

**Date Collected: 06/13/18 16:30**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-22**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>Dibromofluoromethane (Surr)</i>	98		77 - 120		06/27/18 09:37	1
<i>Toluene-d8 (Surr)</i>	104		80 - 125		06/27/18 09:37	1



# Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	RL	MDL	Units	Method
1,1,1-Trichloroethane	1.0	0.16	ug/L	8260B
1,1-Dichloroethane	1.0	0.22	ug/L	8260B
1,1-Dichloroethene	1.0	0.23	ug/L	8260B
1,2-Dichloroethane	1.0	0.13	ug/L	8260B
Acetone	10	1.9	ug/L	8260B
Benzene	1.0	0.16	ug/L	8260B
Chloroethane	2.0	0.41	ug/L	8260B
cis-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Ethylbenzene	1.0	0.16	ug/L	8260B
Methyl ethyl ketone (MEK)	6.0	2.0	ug/L	8260B
Methylene Chloride	2.0	0.32	ug/L	8260B
m-Xylene & p-Xylene	2.0	0.34	ug/L	8260B
o-Xylene	1.0	0.19	ug/L	8260B
Styrene	1.0	0.17	ug/L	8260B
Tetrachloroethene	1.0	0.20	ug/L	8260B
Toluene	1.0	0.17	ug/L	8260B
trans-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Trichloroethene	1.0	0.16	ug/L	8260B
Vinyl chloride	1.0	0.10	ug/L	8260B
Xylenes, Total	2.0	0.19	ug/L	8260B

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	RL	MDL	Units	Method
Ethane	5.0	0.57	ug/L	RSK-175
Ethene	5.0	0.40	ug/L	RSK-175
Methane	5.0	0.22	ug/L	RSK-175

## General Chemistry

Analyte	RL	MDL	Units	Method
Chloride	3.0	0.25	mg/L	300.0
Nitrate as N	0.50	0.042	mg/L	300.0
Sulfate	5.0	0.23	mg/L	300.0
Total Organic Carbon - Average	1.0	0.16	mg/L	9060
Alkalinity	5.0	1.1	mg/L	SM 2320B
Sulfide	1.0	0.50	mg/L	SM 4500 S2 F
Ferrous Iron	0.20	0.021	mg/L	SM3500_FE_D



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
280-110943-1	AFDV-104	102	101	97	101
280-110943-1 - DL	AFDV-104	99	99	96	102
280-110943-2	AFDV-111	101	97	99	100
280-110943-2 - DL	AFDV-111	104	98	101	101
280-110943-3	AFDV-121	100	99	98	104
280-110943-3 - DL	AFDV-121	101	98	98	103
280-110943-3 MS	AFDV-121	102	100	99	100
280-110943-3 MSD	AFDV-121	99	99	97	99
280-110943-4	AFDV-130	106	102	98	103
280-110943-4 - DL	AFDV-130	102	100	98	102
280-110943-5	AFDV-144	103	96	98	101
280-110943-6	AFDV-114	103	97	97	99
280-110943-6 - DL	AFDV-114	103	99	96	100
280-110943-7	AFDV-140	103	98	98	101
280-110943-7 - DL	AFDV-140	102	100	98	103
280-110943-8	AFDV-115	102	97	98	99
280-110943-8 - DL	AFDV-115	105	100	98	101
280-110943-9	AFDV-138	85	100	90	102
280-110943-9 - DL	AFDV-138	93	90	93	97
280-110943-9 MS	AFDV-138	82	87	84	101
280-110943-9 MSD	AFDV-138	85	85	86	97
280-110943-10	AFDV-107	105	99	100	99
280-110943-10 - DL	AFDV-107	105	100	98	102
280-110943-12	AFDV-109	108	99	99	101
280-110943-13	AFDV-101	109	100	100	102
280-110943-14	AFDV-117	110	99	101	101
280-110943-15	AFDV-113	107	100	100	102
280-110943-15 - DL	AFDV-113	104	100	100	102
280-110943-16	AFDV-139	109	113	95	107
280-110943-17	AFDV-141	105	90	108	88
280-110943-17 - DL	AFDV-141	108	98	99	95
280-110943-18	AFDV-142	106	97	98	92
280-110943-18 - DL	AFDV-142	100	91	96	90
280-110943-19	AFDV-105	95	93	91	92
280-110943-20	AFDV-149	93	98	92	104
280-110943-21	AFDV-150	98	99	95	105
280-110943-22	AFDV-151	101	100	98	104
280-111257-A-5 MSD	Matrix Spike Duplicate	104	101	96	102
280-111257-C-5 MS	Matrix Spike	107	103	97	102
550-105667-C-1 MS	Matrix Spike	93	88	92	86
550-105667-C-1 MSD	Matrix Spike Duplicate	93	86	91	87
LCS 280-420184/4	Lab Control Sample	99	99	97	101
LCS 280-420311/4	Lab Control Sample	91	90	90	98
LCS 280-420929/4	Lab Control Sample	99	105	93	105
LCS 280-422211/4	Lab Control Sample	93	81	90	87
MB 280-420184/8	Method Blank	98	103	97	103
MB 280-420311/6	Method Blank	98	106	95	104
MB 280-420929/8	Method Blank	98	108	94	107
MB 280-422211/6	Method Blank	100	90	95	88

TestAmerica Denver



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Surrogate Legend

---

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-420184/8

Matrix: Water

Analysis Batch: 420184

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 08:36	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 08:36	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 08:36	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 08:36	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 08:36	1
Acetone	ND		10	1.9	ug/L			06/27/18 08:36	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 08:36	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 08:36	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 08:36	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 08:36	1
Methylene Chloride	ND		2.0	0.32	ug/L			06/27/18 08:36	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 08:36	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 08:36	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 08:36	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 08:36	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 08:36	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 08:36	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 08:36	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 08:36	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 08:36	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127					06/27/18 08:36	1
4-Bromofluorobenzene (Surr)	103		78 - 120					06/27/18 08:36	1
Dibromofluoromethane (Surr)	97		77 - 120					06/27/18 08:36	1
Toluene-d8 (Surr)	103		80 - 125					06/27/18 08:36	1

Lab Sample ID: LCS 280-420184/4

Matrix: Water

Analysis Batch: 420184

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.64		ug/L		113	65 - 135
1,1-Dichloroethane	5.00	5.45		ug/L		109	65 - 135
1,1-Dichloroethene	5.00	5.51		ug/L		110	65 - 136
1,2-Dichloroethane	5.00	5.60		ug/L		112	65 - 135
Methyl ethyl ketone (MEK)	20.0	16.1		ug/L		80	44 - 177
Acetone	20.0	23.4		ug/L		117	39 - 156
Benzene	5.00	5.48		ug/L		110	65 - 135
Chloroethane	5.00	4.01		ug/L		80	46 - 136
cis-1,2-Dichloroethene	5.00	5.41		ug/L		108	65 - 135
Ethylbenzene	5.00	5.14		ug/L		103	65 - 135
Methylene Chloride	5.00	5.26		ug/L		105	54 - 141
m-Xylene & p-Xylene	5.00	5.02		ug/L		100	65 - 135
o-Xylene	5.00	5.01		ug/L		100	65 - 135
Styrene	5.00	4.58		ug/L		92	65 - 135
Tetrachloroethene	5.00	5.25		ug/L		105	65 - 135
Toluene	5.00	5.52		ug/L		110	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-420184/4

Matrix: Water

Analysis Batch: 420184

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	5.62		ug/L		112	65 - 135
Trichloroethene	5.00	5.37		ug/L		107	65 - 135
Vinyl chloride	5.00	3.94		ug/L		79	40 - 137
Xylenes, Total	10.0	10.0		ug/L		100	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 127
4-Bromofluorobenzene (Surr)	99		78 - 120
Dibromofluoromethane (Surr)	97		77 - 120
Toluene-d8 (Surr)	101		80 - 125

Lab Sample ID: 280-110943-3 MS

Matrix: Water

Analysis Batch: 420184

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	5.70		ug/L		114	65 - 135
1,1-Dichloroethane	44		5.00	48.9	4	ug/L		98	65 - 135
1,1-Dichloroethene	4.1		5.00	9.54		ug/L		109	65 - 136
1,2-Dichloroethane	ND		5.00	5.60		ug/L		112	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	21.2		ug/L		106	44 - 177
Acetone	5.8	J	20.0	28.4		ug/L		113	39 - 156
Benzene	1.6		5.00	7.06		ug/L		110	65 - 135
Chloroethane	1.8	J	5.00	6.00		ug/L		84	46 - 136
cis-1,2-Dichloroethene	290	E	5.00	276	E 4	ug/L		-210	65 - 135
Ethylbenzene	ND		5.00	4.99		ug/L		100	65 - 135
Methylene Chloride	ND		5.00	5.07		ug/L		101	54 - 141
m-Xylene & p-Xylene	ND		5.00	4.75		ug/L		95	65 - 135
o-Xylene	ND		5.00	4.77		ug/L		95	65 - 135
Styrene	ND		5.00	4.26		ug/L		85	65 - 135
Tetrachloroethene	ND		5.00	5.03		ug/L		101	65 - 135
Toluene	ND		5.00	5.45		ug/L		109	65 - 135
trans-1,2-Dichloroethene	0.59	J	5.00	6.07		ug/L		110	65 - 135
Trichloroethene	ND		5.00	5.28		ug/L		106	65 - 135
Vinyl chloride	310	E	5.00	313	E 4	ug/L		158	40 - 137
Xylenes, Total	ND		10.0	9.52		ug/L		95	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 127
4-Bromofluorobenzene (Surr)	100		78 - 120
Dibromofluoromethane (Surr)	99		77 - 120
Toluene-d8 (Surr)	100		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-110943-3 MSD

Matrix: Water

Analysis Batch: 420184

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	6.08		ug/L		122	65 - 135	7	20
1,1-Dichloroethane	44		5.00	53.0	4	ug/L		181	65 - 135	8	21
1,1-Dichloroethene	4.1		5.00	10.5		ug/L		128	65 - 136	10	20
1,2-Dichloroethane	ND		5.00	6.02		ug/L		120	65 - 135	7	20
Methyl ethyl ketone (MEK)	ND		20.0	23.6		ug/L		118	44 - 177	11	32
Acetone	5.8	J	20.0	27.4		ug/L		108	39 - 156	4	23
Benzene	1.6		5.00	7.17		ug/L		112	65 - 135	2	20
Chloroethane	1.8	J	5.00	6.43		ug/L		93	46 - 136	7	25
cis-1,2-Dichloroethene	290	E	5.00	295	E 4	ug/L		166	65 - 135	7	20
Ethylbenzene	ND		5.00	5.36		ug/L		107	65 - 135	7	20
Methylene Chloride	ND		5.00	5.39		ug/L		108	54 - 141	6	26
m-Xylene & p-Xylene	ND		5.00	5.18		ug/L		104	65 - 135	9	20
o-Xylene	ND		5.00	5.18		ug/L		104	65 - 135	8	20
Styrene	ND		5.00	4.65		ug/L		93	65 - 135	9	26
Tetrachloroethene	ND		5.00	5.46		ug/L		109	65 - 135	8	20
Toluene	ND		5.00	5.83		ug/L		117	65 - 135	7	20
trans-1,2-Dichloroethene	0.59	J	5.00	6.57		ug/L		120	65 - 135	8	24
Trichloroethene	ND		5.00	5.76		ug/L		115	65 - 135	9	20
Vinyl chloride	310	E	5.00	316	E 4	ug/L		219	40 - 137	1	24
Xylenes, Total	ND		10.0	10.4		ug/L		104	65 - 135	8	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	99		70 - 127								
4-Bromofluorobenzene (Surr)	99		78 - 120								
Dibromofluoromethane (Surr)	97		77 - 120								
Toluene-d8 (Surr)	99		80 - 125								

Lab Sample ID: MB 280-420311/6

Matrix: Water

Analysis Batch: 420311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/27/18 19:46	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/27/18 19:46	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/27/18 19:46	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/27/18 19:46	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/27/18 19:46	1
Acetone	ND		10	1.9	ug/L			06/27/18 19:46	1
Benzene	ND		1.0	0.16	ug/L			06/27/18 19:46	1
Chloroethane	ND		2.0	0.41	ug/L			06/27/18 19:46	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 19:46	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/27/18 19:46	1
Methylene Chloride	0.335	J	2.0	0.32	ug/L			06/27/18 19:46	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/27/18 19:46	1
o-Xylene	ND		1.0	0.19	ug/L			06/27/18 19:46	1
Styrene	ND		1.0	0.17	ug/L			06/27/18 19:46	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/27/18 19:46	1
Toluene	ND		1.0	0.17	ug/L			06/27/18 19:46	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-420311/6

Matrix: Water

Analysis Batch: 420311

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/27/18 19:46	1
Trichloroethene	ND		1.0	0.16	ug/L			06/27/18 19:46	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/27/18 19:46	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/27/18 19:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		06/27/18 19:46	1
4-Bromofluorobenzene (Surr)	106		78 - 120		06/27/18 19:46	1
Dibromofluoromethane (Surr)	95		77 - 120		06/27/18 19:46	1
Toluene-d8 (Surr)	104		80 - 125		06/27/18 19:46	1

Lab Sample ID: LCS 280-420311/4

Matrix: Water

Analysis Batch: 420311

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	4.50		ug/L		90	65 - 135
1,1-Dichloroethane	5.00	4.54		ug/L		91	65 - 135
1,1-Dichloroethene	5.00	4.38		ug/L		88	65 - 136
1,2-Dichloroethane	5.00	4.44		ug/L		89	65 - 135
Methyl ethyl ketone (MEK)	20.0	18.0		ug/L		90	44 - 177
Acetone	20.0	22.6		ug/L		113	39 - 156
Benzene	5.00	4.42		ug/L		88	65 - 135
Chloroethane	5.00	4.67		ug/L		93	46 - 136
cis-1,2-Dichloroethene	5.00	4.33		ug/L		87	65 - 135
Ethylbenzene	5.00	4.72		ug/L		94	65 - 135
Methylene Chloride	5.00	4.37		ug/L		87	54 - 141
m-Xylene & p-Xylene	5.00	4.65		ug/L		93	65 - 135
o-Xylene	5.00	4.62		ug/L		92	65 - 135
Styrene	5.00	4.46		ug/L		89	65 - 135
Tetrachloroethene	5.00	4.85		ug/L		97	65 - 135
Toluene	5.00	4.82		ug/L		96	65 - 135
trans-1,2-Dichloroethene	5.00	4.66		ug/L		93	65 - 135
Trichloroethene	5.00	4.02		ug/L		80	65 - 135
Vinyl chloride	5.00	4.55		ug/L		91	40 - 137
Xylenes, Total	10.0	9.27		ug/L		93	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 127
4-Bromofluorobenzene (Surr)	90		78 - 120
Dibromofluoromethane (Surr)	90		77 - 120
Toluene-d8 (Surr)	98		80 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-110943-9 MS

Matrix: Water

Analysis Batch: 420311

Client Sample ID: AFDV-138

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	40		5.00	41.1	4	ug/L		16	65 - 135
1,1-Dichloroethane	100	E	5.00	98.8	E 4	ug/L		-79	65 - 135
1,1-Dichloroethene	0.34	J	5.00	4.85		ug/L		90	65 - 136
1,2-Dichloroethane	0.58	J	5.00	4.70		ug/L		82	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	19.0		ug/L		95	44 - 177
Acetone	8.7	J	20.0	34.3		ug/L		128	39 - 156
Benzene	0.53	J	5.00	5.11		ug/L		92	65 - 135
Chloroethane	8.3		5.00	12.4		ug/L		82	46 - 136
cis-1,2-Dichloroethene	140	E	5.00	137	E 4	ug/L		-142	65 - 135
Ethylbenzene	0.18	J	5.00	5.24		ug/L		101	65 - 135
Methylene Chloride	0.35	J B	5.00	4.31		ug/L		79	54 - 141
m-Xylene & p-Xylene	ND		5.00	5.08		ug/L		102	65 - 135
o-Xylene	0.87	J	5.00	6.22		ug/L		107	65 - 135
Styrene	ND		5.00	4.74		ug/L		95	65 - 135
Tetrachloroethene	0.88	J	5.00	6.24		ug/L		107	65 - 135
Toluene	ND		5.00	4.98		ug/L		100	65 - 135
trans-1,2-Dichloroethene	0.77	J	5.00	5.64		ug/L		97	65 - 135
Trichloroethene	0.80	J	5.00	5.03		ug/L		85	65 - 135
Vinyl chloride	230	E	5.00	206	E 4	ug/L		-568	40 - 137
Xylenes, Total	0.87	J	10.0	11.3		ug/L		104	65 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	82		70 - 127						
4-Bromofluorobenzene (Surr)	87		78 - 120						
Dibromofluoromethane (Surr)	84		77 - 120						
Toluene-d8 (Surr)	101		80 - 125						

Lab Sample ID: 280-110943-9 MSD

Matrix: Water

Analysis Batch: 420311

Client Sample ID: AFDV-138

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	40		5.00	37.8	4	ug/L		-50	65 - 135	8	20
1,1-Dichloroethane	100	E	5.00	92.6	E 4	ug/L		-202	65 - 135	6	21
1,1-Dichloroethene	0.34	J	5.00	4.80		ug/L		89	65 - 136	1	20
1,2-Dichloroethane	0.58	J	5.00	4.98		ug/L		88	65 - 135	6	20
Methyl ethyl ketone (MEK)	ND		20.0	17.4		ug/L		87	44 - 177	9	32
Acetone	8.7	J	20.0	39.0		ug/L		152	39 - 156	13	23
Benzene	0.53	J	5.00	5.01		ug/L		89	65 - 135	2	20
Chloroethane	8.3		5.00	11.6		ug/L		65	46 - 136	7	25
cis-1,2-Dichloroethene	140	E	5.00	130	E 4	ug/L		-275	65 - 135	5	20
Ethylbenzene	0.18	J	5.00	5.05		ug/L		97	65 - 135	4	20
Methylene Chloride	0.35	J B	5.00	4.50		ug/L		83	54 - 141	4	26
m-Xylene & p-Xylene	ND		5.00	4.95		ug/L		99	65 - 135	3	20
o-Xylene	0.87	J	5.00	6.10		ug/L		105	65 - 135	2	20
Styrene	ND		5.00	4.80		ug/L		96	65 - 135	1	26
Tetrachloroethene	0.88	J	5.00	5.86		ug/L		100	65 - 135	6	20
Toluene	ND		5.00	4.91		ug/L		98	65 - 135	1	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-110943-9 MSD

Matrix: Water

Analysis Batch: 420311

Client Sample ID: AFDV-138

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	0.77	J	5.00	5.48		ug/L		94	65 - 135	3	24
Trichloroethene	0.80	J	5.00	4.92		ug/L		82	65 - 135	2	20
Vinyl chloride	230	E	5.00	186	E 4	ug/L		-964	40 - 137	10	24
Xylenes, Total	0.87	J	10.0	11.1		ug/L		102	65 - 135	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		70 - 127
4-Bromofluorobenzene (Surr)	85		78 - 120
Dibromofluoromethane (Surr)	86		77 - 120
Toluene-d8 (Surr)	97		80 - 125

Lab Sample ID: MB 280-420929/8

Matrix: Water

Analysis Batch: 420929

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/03/18 08:35	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/03/18 08:35	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/03/18 08:35	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/03/18 08:35	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/03/18 08:35	1
Acetone	ND		10	1.9	ug/L			07/03/18 08:35	1
Benzene	ND		1.0	0.16	ug/L			07/03/18 08:35	1
Chloroethane	ND		2.0	0.41	ug/L			07/03/18 08:35	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/03/18 08:35	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/03/18 08:35	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/03/18 08:35	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/03/18 08:35	1
o-Xylene	ND		1.0	0.19	ug/L			07/03/18 08:35	1
Styrene	ND		1.0	0.17	ug/L			07/03/18 08:35	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/03/18 08:35	1
Toluene	ND		1.0	0.17	ug/L			07/03/18 08:35	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/03/18 08:35	1
Trichloroethene	ND		1.0	0.16	ug/L			07/03/18 08:35	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/03/18 08:35	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/03/18 08:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		07/03/18 08:35	1
4-Bromofluorobenzene (Surr)	108		78 - 120		07/03/18 08:35	1
Dibromofluoromethane (Surr)	94		77 - 120		07/03/18 08:35	1
Toluene-d8 (Surr)	107		80 - 125		07/03/18 08:35	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-420929/4

Matrix: Water

Analysis Batch: 420929

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.67		ug/L		113	65 - 135
1,1-Dichloroethane	5.00	5.43		ug/L		109	65 - 135
1,1-Dichloroethene	5.00	5.27		ug/L		105	65 - 136
1,2-Dichloroethane	5.00	5.43		ug/L		109	65 - 135
Methyl ethyl ketone (MEK)	20.0	22.1		ug/L		111	44 - 177
Acetone	20.0	23.3		ug/L		117	39 - 156
Benzene	5.00	5.33		ug/L		107	65 - 135
Chloroethane	5.00	4.79		ug/L		96	46 - 136
cis-1,2-Dichloroethene	5.00	5.11		ug/L		102	65 - 135
Ethylbenzene	5.00	5.24		ug/L		105	65 - 135
Methylene Chloride	5.00	4.89		ug/L		98	54 - 141
m-Xylene & p-Xylene	5.00	5.15		ug/L		103	65 - 135
o-Xylene	5.00	5.06		ug/L		101	65 - 135
Styrene	5.00	4.63		ug/L		93	65 - 135
Tetrachloroethene	5.00	5.17		ug/L		103	65 - 135
Toluene	5.00	5.35		ug/L		107	65 - 135
trans-1,2-Dichloroethene	5.00	5.27		ug/L		105	65 - 135
Trichloroethene	5.00	5.12		ug/L		102	65 - 135
Vinyl chloride	5.00	4.72		ug/L		94	40 - 137
Xylenes, Total	10.0	10.2		ug/L		102	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 127
4-Bromofluorobenzene (Surr)	105		78 - 120
Dibromofluoromethane (Surr)	93		77 - 120
Toluene-d8 (Surr)	105		80 - 125

Lab Sample ID: 280-111257-A-5 MSD

Matrix: Water

Analysis Batch: 420929

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	5.79		ug/L		116	65 - 135	1	20
1,1-Dichloroethane	ND		5.00	5.54		ug/L		111	65 - 135	1	21
1,1-Dichloroethene	ND		5.00	5.25		ug/L		105	65 - 136	1	20
1,2-Dichloroethane	ND		5.00	6.17		ug/L		123	65 - 135	1	20
Methyl ethyl ketone (MEK)	ND		20.0	26.2		ug/L		131	44 - 177	7	32
Acetone	3.7	J	20.0	32.4		ug/L		144	39 - 156	1	23
Benzene	ND		5.00	5.41		ug/L		108	65 - 135	2	20
Chloroethane	ND		5.00	5.00		ug/L		100	46 - 136	2	25
cis-1,2-Dichloroethene	ND		5.00	5.37		ug/L		107	65 - 135	1	20
Ethylbenzene	ND		5.00	5.27		ug/L		105	65 - 135	3	20
Methylene Chloride	ND		5.00	5.08		ug/L		102	54 - 141	2	26
m-Xylene & p-Xylene	ND		5.00	5.08		ug/L		102	65 - 135	4	20
o-Xylene	ND		5.00	5.05		ug/L		101	65 - 135	3	20
Styrene	ND		5.00	4.62		ug/L		92	65 - 135	3	26
Tetrachloroethene	ND		5.00	5.22		ug/L		104	65 - 135	2	20
Toluene	ND		5.00	5.36		ug/L		107	65 - 135	0	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111257-A-5 MSD

Matrix: Water

Analysis Batch: 420929

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND		5.00	5.37		ug/L		107	65 - 135	0	24
Trichloroethene	ND		5.00	5.14		ug/L		103	65 - 135	1	20
Vinyl chloride	ND		5.00	4.98		ug/L		100	40 - 137	0	24
Xylenes, Total	ND		10.0	10.1		ug/L		101	65 - 135	3	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 127
4-Bromofluorobenzene (Surr)	101		78 - 120
Dibromofluoromethane (Surr)	96		77 - 120
Toluene-d8 (Surr)	102		80 - 125

Lab Sample ID: 280-111257-C-5 MS

Matrix: Water

Analysis Batch: 420929

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	5.83		ug/L		117	65 - 135
1,1-Dichloroethane	ND		5.00	5.47		ug/L		109	65 - 135
1,1-Dichloroethene	ND		5.00	5.31		ug/L		106	65 - 136
1,2-Dichloroethane	ND		5.00	6.23		ug/L		125	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	24.4		ug/L		122	44 - 177
Acetone	3.7 J		20.0	32.7		ug/L		145	39 - 156
Benzene	ND		5.00	5.32		ug/L		106	65 - 135
Chloroethane	ND		5.00	4.89		ug/L		98	46 - 136
cis-1,2-Dichloroethene	ND		5.00	5.32		ug/L		106	65 - 135
Ethylbenzene	ND		5.00	5.14		ug/L		103	65 - 135
Methylene Chloride	ND		5.00	4.99		ug/L		100	54 - 141
m-Xylene & p-Xylene	ND		5.00	4.90		ug/L		98	65 - 135
o-Xylene	ND		5.00	4.92		ug/L		98	65 - 135
Styrene	ND		5.00	4.49		ug/L		90	65 - 135
Tetrachloroethene	ND		5.00	5.14		ug/L		103	65 - 135
Toluene	ND		5.00	5.35		ug/L		107	65 - 135
trans-1,2-Dichloroethene	ND		5.00	5.39		ug/L		108	65 - 135
Trichloroethene	ND		5.00	5.07		ug/L		101	65 - 135
Vinyl chloride	ND		5.00	4.98		ug/L		100	40 - 137
Xylenes, Total	ND		10.0	9.82		ug/L		98	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	107		70 - 127
4-Bromofluorobenzene (Surr)	103		78 - 120
Dibromofluoromethane (Surr)	97		77 - 120
Toluene-d8 (Surr)	102		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-422211/6

Matrix: Water

Analysis Batch: 422211

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/13/18 23:29	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/13/18 23:29	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/13/18 23:29	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/13/18 23:29	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/13/18 23:29	1
Acetone	ND		10	1.9	ug/L			07/13/18 23:29	1
Benzene	ND		1.0	0.16	ug/L			07/13/18 23:29	1
Chloroethane	ND		2.0	0.41	ug/L			07/13/18 23:29	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/13/18 23:29	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/13/18 23:29	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/13/18 23:29	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/13/18 23:29	1
o-Xylene	ND		1.0	0.19	ug/L			07/13/18 23:29	1
Styrene	ND		1.0	0.17	ug/L			07/13/18 23:29	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/13/18 23:29	1
Toluene	ND		1.0	0.17	ug/L			07/13/18 23:29	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/13/18 23:29	1
Trichloroethene	ND		1.0	0.16	ug/L			07/13/18 23:29	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/13/18 23:29	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/13/18 23:29	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127					07/13/18 23:29	1
4-Bromofluorobenzene (Surr)	90		78 - 120					07/13/18 23:29	1
Dibromofluoromethane (Surr)	95		77 - 120					07/13/18 23:29	1
Toluene-d8 (Surr)	88		80 - 125					07/13/18 23:29	1

Lab Sample ID: LCS 280-422211/4

Matrix: Water

Analysis Batch: 422211

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.25		ug/L		105	65 - 135
1,1-Dichloroethane	5.00	4.82		ug/L		96	65 - 135
1,1-Dichloroethene	5.00	5.09		ug/L		102	65 - 136
1,2-Dichloroethane	5.00	5.06		ug/L		101	65 - 135
Methyl ethyl ketone (MEK)	20.0	19.1		ug/L		95	44 - 177
Acetone	20.0	17.8		ug/L		89	39 - 156
Benzene	5.00	5.01		ug/L		100	65 - 135
Chloroethane	5.00	5.84		ug/L		117	46 - 136
cis-1,2-Dichloroethene	5.00	5.06		ug/L		101	65 - 135
Ethylbenzene	5.00	4.88		ug/L		98	65 - 135
Methylene Chloride	5.00	5.20		ug/L		104	54 - 141
m-Xylene & p-Xylene	5.00	4.82		ug/L		96	65 - 135
o-Xylene	5.00	4.79		ug/L		96	65 - 135
Styrene	5.00	4.45		ug/L		89	65 - 135
Tetrachloroethene	5.00	4.98		ug/L		100	65 - 135
Toluene	5.00	5.26		ug/L		105	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-422211/4

Matrix: Water

Analysis Batch: 422211

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	5.12		ug/L		102	65 - 135
Trichloroethene	5.00	5.26		ug/L		105	65 - 135
Vinyl chloride	5.00	4.85		ug/L		97	40 - 137
Xylenes, Total	10.0	9.61		ug/L		96	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 127
4-Bromofluorobenzene (Surr)	81		78 - 120
Dibromofluoromethane (Surr)	90		77 - 120
Toluene-d8 (Surr)	87		80 - 125

Lab Sample ID: 550-105667-C-1 MS

Matrix: Water

Analysis Batch: 422211

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	5.25		ug/L		105	65 - 135
1,1-Dichloroethane	ND		5.00	4.85		ug/L		97	65 - 135
1,1-Dichloroethene	ND		5.00	5.07		ug/L		101	65 - 136
1,2-Dichloroethane	ND		5.00	5.05		ug/L		101	65 - 135
Methyl ethyl ketone (MEK)	2.2	J	20.0	22.5		ug/L		101	44 - 177
Acetone	12		20.0	33.8		ug/L		111	39 - 156
Benzene	ND		5.00	4.91		ug/L		98	65 - 135
Chloroethane	ND		5.00	5.93		ug/L		119	46 - 136
cis-1,2-Dichloroethene	ND		5.00	5.06		ug/L		101	65 - 135
Ethylbenzene	ND		5.00	4.84		ug/L		97	65 - 135
Methylene Chloride	ND		5.00	4.84		ug/L		97	54 - 141
m-Xylene & p-Xylene	ND		5.00	4.77		ug/L		95	65 - 135
o-Xylene	ND		5.00	4.67		ug/L		93	65 - 135
Styrene	ND		5.00	4.41		ug/L		88	65 - 135
Tetrachloroethene	ND		5.00	4.86		ug/L		97	65 - 135
Toluene	ND		5.00	5.15		ug/L		103	65 - 135
trans-1,2-Dichloroethene	ND		5.00	5.10		ug/L		102	65 - 135
Trichloroethene	ND		5.00	5.13		ug/L		103	65 - 135
Vinyl chloride	ND		5.00	5.02		ug/L		100	40 - 137
Xylenes, Total	ND		10.0	9.44		ug/L		94	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 127
4-Bromofluorobenzene (Surr)	88		78 - 120
Dibromofluoromethane (Surr)	92		77 - 120
Toluene-d8 (Surr)	86		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 550-105667-C-1 MSD

Matrix: Water

Analysis Batch: 422211

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	5.32		ug/L		106	65 - 135	1	20
1,1-Dichloroethane	ND		5.00	4.85		ug/L		97	65 - 135	0	21
1,1-Dichloroethene	ND		5.00	5.15		ug/L		103	65 - 136	2	20
1,2-Dichloroethane	ND		5.00	5.16		ug/L		103	65 - 135	2	20
Methyl ethyl ketone (MEK)	2.2	J	20.0	22.2		ug/L		100	44 - 177	1	32
Acetone	12		20.0	35.2		ug/L		118	39 - 156	4	23
Benzene	ND		5.00	4.90		ug/L		98	65 - 135	0	20
Chloroethane	ND		5.00	5.79		ug/L		116	46 - 136	2	25
cis-1,2-Dichloroethene	ND		5.00	5.14		ug/L		103	65 - 135	2	20
Ethylbenzene	ND		5.00	4.72		ug/L		94	65 - 135	3	20
Methylene Chloride	ND		5.00	4.92		ug/L		98	54 - 141	2	26
m-Xylene & p-Xylene	ND		5.00	4.70		ug/L		94	65 - 135	1	20
o-Xylene	ND		5.00	4.77		ug/L		95	65 - 135	2	20
Styrene	ND		5.00	4.52		ug/L		90	65 - 135	3	26
Tetrachloroethene	ND		5.00	4.91		ug/L		98	65 - 135	1	20
Toluene	ND		5.00	4.99		ug/L		100	65 - 135	3	20
trans-1,2-Dichloroethene	ND		5.00	4.98		ug/L		100	65 - 135	2	24
Trichloroethene	ND		5.00	5.01		ug/L		100	65 - 135	2	20
Vinyl chloride	ND		5.00	4.87		ug/L		97	40 - 137	3	24
Xylenes, Total	ND		10.0	9.47		ug/L		95	65 - 135	0	20
<b>MSD MSD</b>											
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	93		70 - 127								
4-Bromofluorobenzene (Surr)	86		78 - 120								
Dibromofluoromethane (Surr)	91		77 - 120								
Toluene-d8 (Surr)	87		80 - 125								

## Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 280-419946/4

Matrix: Water

Analysis Batch: 419946

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	0.22	ug/L			06/25/18 15:52	1
Ethene	ND		5.0	0.40	ug/L			06/25/18 15:52	1
Ethane	ND		5.0	0.57	ug/L			06/25/18 15:52	1

Lab Sample ID: LCS 280-419946/5

Matrix: Water

Analysis Batch: 419946

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	146	128		ug/L		88	75 - 125
Ethene	255	244		ug/L		96	75 - 125
Ethane	274	266		ug/L		97	75 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 280-419946/6

Matrix: Water

Analysis Batch: 419946

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	146	135		ug/L		93	75 - 125	5	20
Ethene	255	254		ug/L		99	75 - 125	4	20
Ethane	274	280		ug/L		102	75 - 125	5	20

Lab Sample ID: 280-110943-3 MS

Matrix: Water

Analysis Batch: 419946

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	400		146	584		ug/L		123	52 - 145		
Ethene	32		255	279		ug/L		97	75 - 131		
Ethane	31		274	309		ug/L		102	75 - 125		

Lab Sample ID: 280-110943-3 MSD

Matrix: Water

Analysis Batch: 419946

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	400		146	562		ug/L		108	52 - 145	4	20
Ethene	32		255	268		ug/L		93	75 - 131	4	20
Ethane	31		274	296		ug/L		97	75 - 125	4	20

Lab Sample ID: 280-110943-3 DU

Matrix: Water

Analysis Batch: 419946

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	400		385		ug/L				5	20
Ethene	32		30.5		ug/L				4	20
Ethane	31		29.7		ug/L				5	20

Lab Sample ID: MB 280-420106/4

Matrix: Water

Analysis Batch: 420106

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.584	J	5.0	0.22	ug/L			06/26/18 13:35	1
Ethene	ND		5.0	0.40	ug/L			06/26/18 13:35	1
Ethane	ND		5.0	0.57	ug/L			06/26/18 13:35	1

Lab Sample ID: LCS 280-420106/5

Matrix: Water

Analysis Batch: 420106

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	146	143		ug/L		98	75 - 125		
Ethene	255	265		ug/L		104	75 - 125		
Ethane	274	295		ug/L		108	75 - 125		

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCSD 280-420106/6

Matrix: Water

Analysis Batch: 420106

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	146	148		ug/L		101	75 - 125	3	20
Ethene	255	271		ug/L		106	75 - 125	2	20
Ethane	274	302		ug/L		111	75 - 125	3	20

Lab Sample ID: 280-111004-J-6 MS

Matrix: Water

Analysis Batch: 420106

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	18000	E B	146	16400	E 4	ug/L		-923	52 - 145		
Ethene	8.8	F2 F1	255	235		ug/L		89	75 - 131		
Ethane	3.0	J	274	260		ug/L		94	75 - 125		

Lab Sample ID: 280-111004-J-6 MSD

Matrix: Water

Analysis Batch: 420106

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	18000	E B	146	14800	E 4	ug/L		-2016	52 - 145	10	20
Ethene	8.8	F2 F1	255	168	F2 F1	ug/L		63	75 - 131	33	20
Ethane	3.0	J	274	259		ug/L		93	75 - 125	1	20

Lab Sample ID: 280-110943-14 DU

Matrix: Water

Analysis Batch: 420106

Client Sample ID: AFDV-117

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	94	B	83.2		ug/L				12	20
Ethene	ND		ND		ug/L				NC	20
Ethane	ND		ND		ug/L				NC	20

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-418593/6

Matrix: Water

Analysis Batch: 418593

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.50	0.042	mg/L			06/14/18 13:03	1

Lab Sample ID: LCS 280-418593/4

Matrix: Water

Analysis Batch: 418593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5.00	5.01		mg/L		100	90 - 110		

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-418593/5

Matrix: Water

Analysis Batch: 418593

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5.00	5.01		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-418593/3

Matrix: Water

Analysis Batch: 418593

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N	0.200	0.202	J	mg/L		101	50 - 150		

Lab Sample ID: 280-110943-3 MS

Matrix: Water

Analysis Batch: 418593

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N	ND		5.00	5.00		mg/L		100	80 - 120		

Lab Sample ID: 280-110943-3 MSD

Matrix: Water

Analysis Batch: 418593

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND		5.00	4.90		mg/L		98	80 - 120	2	20

Lab Sample ID: 280-110943-3 DU

Matrix: Water

Analysis Batch: 418593

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Nitrate as N	ND		ND		mg/L				NC	15

Lab Sample ID: MB 280-421176/6

Matrix: Water

Analysis Batch: 421176

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			07/05/18 14:12	1
Sulfate	ND		5.0	0.23	mg/L			07/05/18 14:12	1

Lab Sample ID: LCS 280-421176/4

Matrix: Water

Analysis Batch: 421176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	100	98.3		mg/L		98	90 - 110		
Sulfate	100	99.7		mg/L		100	90 - 110		



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-421176/5

Matrix: Water

Analysis Batch: 421176

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	98.9		mg/L		99	90 - 110	1	10
Sulfate	100	100		mg/L		100	90 - 110	1	10

Lab Sample ID: MRL 280-421176/3

Matrix: Water

Analysis Batch: 421176

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	2.50	2.48	J	mg/L		99	50 - 150		
Sulfate	2.50	2.46	J	mg/L		99	50 - 150		

Lab Sample ID: 280-110943-3 MS

Matrix: Water

Analysis Batch: 421176

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	150		25.0	169	4	mg/L		93	80 - 120		
Sulfate	110		25.0	131	4	mg/L		96	80 - 120		

Lab Sample ID: 280-110943-3 MSD

Matrix: Water

Analysis Batch: 421176

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	150		25.0	170	4	mg/L		95	80 - 120	0	20
Sulfate	110		25.0	132	4	mg/L		97	80 - 120	0	20

Lab Sample ID: 280-110943-9 MS

Matrix: Water

Analysis Batch: 421176

Client Sample ID: AFDV-138

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	48		25.0	73.2		mg/L		99	80 - 120		

Lab Sample ID: 280-110943-9 MSD

Matrix: Water

Analysis Batch: 421176

Client Sample ID: AFDV-138

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	48		25.0	74.7		mg/L		105	80 - 120	2	20

Lab Sample ID: 280-110943-3 DU

Matrix: Water

Analysis Batch: 421176

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Chloride	150			146		mg/L				0.2	15
Sulfate	110			107		mg/L				0.1	15

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-110943-9 DU

Matrix: Water

Analysis Batch: 421176

Client Sample ID: AFDV-138

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	48		48.2		mg/L		0.5	15

Lab Sample ID: MB 280-421505/6

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			07/09/18 17:38	1
Sulfate	ND		5.0	0.23	mg/L			07/09/18 17:38	1

Lab Sample ID: LCS 280-421505/4

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	101		mg/L		101	90 - 110
Sulfate	100	103		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-421505/5

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	101		mg/L		101	90 - 110	0	10
Sulfate	100	103		mg/L		103	90 - 110	0	10

Lab Sample ID: MRL 280-421505/3

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.50	2.40	J	mg/L		96	50 - 150
Sulfate	2.50	2.45	J	mg/L		98	50 - 150

Lab Sample ID: 280-110851-A-31 MS

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	12	J	125	144		mg/L		105	80 - 120

Lab Sample ID: 280-110851-A-31 MSD

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	12	J	125	144		mg/L		105	80 - 120	0	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-111725-G-3 MS

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	14		25.0	40.4		mg/L		106	80 - 120
Sulfate	15		25.0	42.4		mg/L		108	80 - 120

Lab Sample ID: 280-111725-G-3 MSD

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	14		25.0	41.1		mg/L		109	80 - 120	2	20
Sulfate	15		25.0	43.2		mg/L		111	80 - 120	2	20

Lab Sample ID: 280-110851-A-31 DU

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	12	J	12.0	J	mg/L		2	15

Lab Sample ID: 280-111725-G-3 DU

Matrix: Water

Analysis Batch: 421505

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	14		13.9		mg/L		0.2	15
Sulfate	15		15.4		mg/L		0.7	15

Lab Sample ID: MB 280-421617/12

Matrix: Water

Analysis Batch: 421617

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			07/10/18 18:51	1

Lab Sample ID: LCS 280-421617/60

Matrix: Water

Analysis Batch: 421617

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.7		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-421617/61

Matrix: Water

Analysis Batch: 421617

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.6		mg/L		100	90 - 110	0	10

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 280-421617/3  
Matrix: Water  
Analysis Batch: 421617

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.50	2.55	J	mg/L		102	50 - 150

Lab Sample ID: 280-111006-B-6 MS  
Matrix: Water  
Analysis Batch: 421617

Client Sample ID: Matrix Spike  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.2	J	125	141		mg/L		109	80 - 120

Lab Sample ID: 280-111006-B-6 MSD  
Matrix: Water  
Analysis Batch: 421617

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	5.2	J	125	141		mg/L		109	80 - 120	0	20

Lab Sample ID: 280-111006-B-6 DU  
Matrix: Water  
Analysis Batch: 421617

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	5.2	J	5.16	J	mg/L		2	15

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-420381/35  
Matrix: Water  
Analysis Batch: 420381

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	0.208	J	1.0	0.16	mg/L			06/28/18 00:31	1

Lab Sample ID: LCS 280-420381/34  
Matrix: Water  
Analysis Batch: 420381

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	23.3		mg/L		93	88 - 112

Lab Sample ID: 280-110943-3 MS  
Matrix: Water  
Analysis Batch: 420381

Client Sample ID: AFDV-121  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	2.3	B	25.0	26.1		mg/L		95	88 - 112



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 280-110943-3 MSD  
Matrix: Water  
Analysis Batch: 420381

Client Sample ID: AFDV-121  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	2.3	B	25.0	26.7		mg/L		98	88 - 112	2	15

Lab Sample ID: 280-110943-9 MS  
Matrix: Water  
Analysis Batch: 420381

Client Sample ID: AFDV-138  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Average	6.9	B	25.0	30.8		mg/L		96	88 - 112		

Lab Sample ID: 280-110943-9 MSD  
Matrix: Water  
Analysis Batch: 420381

Client Sample ID: AFDV-138  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	6.9	B	25.0	31.0		mg/L		97	88 - 112	1	15

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-419814/5  
Matrix: Water  
Analysis Batch: 419814

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	1.77	J	5.0	1.1	mg/L			06/23/18 12:24	1

Lab Sample ID: LCS 280-419814/4  
Matrix: Water  
Analysis Batch: 419814

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity	200	201		mg/L		101	90 - 110		

Lab Sample ID: 280-110879-A-6 DU  
Matrix: Water  
Analysis Batch: 419814

Client Sample ID: Duplicate  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	380	B	385		mg/L		0.6	10

## Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 280-418908/1  
Matrix: Water  
Analysis Batch: 418908

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.50	mg/L			06/18/18 07:45	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: SM 4500 S2 F - Sulfide, Total (Continued)

Lab Sample ID: LCS 280-418908/2  
Matrix: Water  
Analysis Batch: 418908

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	26.9	27.8		mg/L		103	90 - 110

Lab Sample ID: 280-110943-3 MS  
Matrix: Water  
Analysis Batch: 418908

Client Sample ID: AFDV-121  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		26.9	28.0		mg/L		104	90 - 110

Lab Sample ID: 280-110943-3 MSD  
Matrix: Water  
Analysis Batch: 418908

Client Sample ID: AFDV-121  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	ND		26.9	28.0		mg/L		104	90 - 110	0	10

## Method: SM3500\_FE\_D - Ferrous Iron

Lab Sample ID: MB 280-419575/5  
Matrix: Water  
Analysis Batch: 419575

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.20	0.021	mg/L			06/22/18 08:29	1

Lab Sample ID: LCS 280-419575/3  
Matrix: Water  
Analysis Batch: 419575

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	2.00	2.19		mg/L		110	85 - 113

Lab Sample ID: LCSD 280-419575/4  
Matrix: Water  
Analysis Batch: 419575

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	2.00	2.19		mg/L		110	85 - 113	0	10

Lab Sample ID: 280-110943-3 MS  
Matrix: Water  
Analysis Batch: 419575

Client Sample ID: AFDV-121  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	ND	HF	2.00	2.21	HF	mg/L		111	85 - 113

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Method: SM3500\_FE\_D - Ferrous Iron (Continued)

Lab Sample ID: 280-110943-3 MSD

Matrix: Water

Analysis Batch: 419575

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	ND	HF	2.00	2.21	HF	mg/L	—	110	85 - 113	0	10

Lab Sample ID: 280-110943-3 DU

Matrix: Water

Analysis Batch: 419575

Client Sample ID: AFDV-121

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ferrous Iron	ND	HF	ND		mg/L	—	NC	10



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## GC/MS VOA

### Analysis Batch: 420184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-1	AFDV-104	Total/NA	Water	8260B	
280-110943-1 - DL	AFDV-104	Total/NA	Water	8260B	
280-110943-2	AFDV-111	Total/NA	Water	8260B	
280-110943-2 - DL	AFDV-111	Total/NA	Water	8260B	
280-110943-3	AFDV-121	Total/NA	Water	8260B	
280-110943-3 - DL	AFDV-121	Total/NA	Water	8260B	
280-110943-4	AFDV-130	Total/NA	Water	8260B	
280-110943-4 - DL	AFDV-130	Total/NA	Water	8260B	
280-110943-5	AFDV-144	Total/NA	Water	8260B	
280-110943-6	AFDV-114	Total/NA	Water	8260B	
280-110943-6 - DL	AFDV-114	Total/NA	Water	8260B	
280-110943-7	AFDV-140	Total/NA	Water	8260B	
280-110943-7 - DL	AFDV-140	Total/NA	Water	8260B	
280-110943-8	AFDV-115	Total/NA	Water	8260B	
280-110943-8 - DL	AFDV-115	Total/NA	Water	8260B	
280-110943-10	AFDV-107	Total/NA	Water	8260B	
280-110943-10 - DL	AFDV-107	Total/NA	Water	8260B	
280-110943-12	AFDV-109	Total/NA	Water	8260B	
280-110943-13	AFDV-101	Total/NA	Water	8260B	
280-110943-14	AFDV-117	Total/NA	Water	8260B	
280-110943-15	AFDV-113	Total/NA	Water	8260B	
280-110943-15 - DL	AFDV-113	Total/NA	Water	8260B	
280-110943-20	AFDV-149	Total/NA	Water	8260B	
280-110943-21	AFDV-150	Total/NA	Water	8260B	
280-110943-22	AFDV-151	Total/NA	Water	8260B	
MB 280-420184/8	Method Blank	Total/NA	Water	8260B	
LCS 280-420184/4	Lab Control Sample	Total/NA	Water	8260B	
280-110943-3 MS	AFDV-121	Total/NA	Water	8260B	
280-110943-3 MSD	AFDV-121	Total/NA	Water	8260B	

### Analysis Batch: 420311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-9	AFDV-138	Total/NA	Water	8260B	
280-110943-9 - DL	AFDV-138	Total/NA	Water	8260B	
MB 280-420311/6	Method Blank	Total/NA	Water	8260B	
LCS 280-420311/4	Lab Control Sample	Total/NA	Water	8260B	
280-110943-9 MS	AFDV-138	Total/NA	Water	8260B	
280-110943-9 MSD	AFDV-138	Total/NA	Water	8260B	

### Analysis Batch: 420929

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-16	AFDV-139	Total/NA	Water	8260B	
MB 280-420929/8	Method Blank	Total/NA	Water	8260B	
LCS 280-420929/4	Lab Control Sample	Total/NA	Water	8260B	
280-111257-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
280-111257-C-5 MS	Matrix Spike	Total/NA	Water	8260B	

### Analysis Batch: 422211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-17	AFDV-141	Total/NA	Water	8260B	
280-110943-17 - DL	AFDV-141	Total/NA	Water	8260B	

TestAmerica Denver



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## GC/MS VOA (Continued)

### Analysis Batch: 422211 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-18	AFDV-142	Total/NA	Water	8260B	
280-110943-18 - DL	AFDV-142	Total/NA	Water	8260B	
280-110943-19	AFDV-105	Total/NA	Water	8260B	
MB 280-422211/6	Method Blank	Total/NA	Water	8260B	
LCS 280-422211/4	Lab Control Sample	Total/NA	Water	8260B	
550-105667-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
550-105667-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## GC VOA

### Analysis Batch: 419946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-3	AFDV-121	Total/NA	Water	RSK-175	
280-110943-4	AFDV-130	Total/NA	Water	RSK-175	
280-110943-5	AFDV-144	Total/NA	Water	RSK-175	
280-110943-12	AFDV-109	Total/NA	Water	RSK-175	
280-110943-13	AFDV-101	Total/NA	Water	RSK-175	
MB 280-419946/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-419946/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-419946/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-110943-3 MS	AFDV-121	Total/NA	Water	RSK-175	
280-110943-3 MSD	AFDV-121	Total/NA	Water	RSK-175	
280-110943-3 DU	AFDV-121	Total/NA	Water	RSK-175	

### Analysis Batch: 420106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-4	AFDV-130	Total/NA	Water	RSK-175	
280-110943-14	AFDV-117	Total/NA	Water	RSK-175	
MB 280-420106/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-420106/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-420106/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-111004-J-6 MS	Matrix Spike	Total/NA	Water	RSK-175	
280-111004-J-6 MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	
280-110943-14 DU	AFDV-117	Total/NA	Water	RSK-175	

## General Chemistry

### Analysis Batch: 418593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-3	AFDV-121	Total/NA	Water	300.0	
280-110943-4	AFDV-130	Total/NA	Water	300.0	
280-110943-5	AFDV-144	Total/NA	Water	300.0	
280-110943-12	AFDV-109	Total/NA	Water	300.0	
280-110943-13	AFDV-101	Total/NA	Water	300.0	
280-110943-14	AFDV-117	Total/NA	Water	300.0	
MB 280-418593/6	Method Blank	Total/NA	Water	300.0	
LCS 280-418593/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-418593/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-418593/3	Lab Control Sample	Total/NA	Water	300.0	
280-110943-3 MS	AFDV-121	Total/NA	Water	300.0	



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## General Chemistry (Continued)

### Analysis Batch: 418593 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-3 MSD	AFDV-121	Total/NA	Water	300.0	
280-110943-3 DU	AFDV-121	Total/NA	Water	300.0	

### Analysis Batch: 418908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-3	AFDV-121	Total/NA	Water	SM 4500 S2 F	
280-110943-4	AFDV-130	Total/NA	Water	SM 4500 S2 F	
280-110943-5	AFDV-144	Total/NA	Water	SM 4500 S2 F	
280-110943-12	AFDV-109	Total/NA	Water	SM 4500 S2 F	
280-110943-13	AFDV-101	Total/NA	Water	SM 4500 S2 F	
280-110943-14	AFDV-117	Total/NA	Water	SM 4500 S2 F	
MB 280-418908/1	Method Blank	Total/NA	Water	SM 4500 S2 F	
LCS 280-418908/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
280-110943-3 MS	AFDV-121	Total/NA	Water	SM 4500 S2 F	
280-110943-3 MSD	AFDV-121	Total/NA	Water	SM 4500 S2 F	

### Analysis Batch: 419575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-3	AFDV-121	Total/NA	Water	SM3500_FE_D	
280-110943-4	AFDV-130	Total/NA	Water	SM3500_FE_D	
280-110943-5	AFDV-144	Total/NA	Water	SM3500_FE_D	
280-110943-12	AFDV-109	Total/NA	Water	SM3500_FE_D	
280-110943-13	AFDV-101	Total/NA	Water	SM3500_FE_D	
280-110943-14	AFDV-117	Total/NA	Water	SM3500_FE_D	
MB 280-419575/5	Method Blank	Total/NA	Water	SM3500_FE_D	
LCS 280-419575/3	Lab Control Sample	Total/NA	Water	SM3500_FE_D	
LCSD 280-419575/4	Lab Control Sample Dup	Total/NA	Water	SM3500_FE_D	
280-110943-3 MS	AFDV-121	Total/NA	Water	SM3500_FE_D	
280-110943-3 MSD	AFDV-121	Total/NA	Water	SM3500_FE_D	
280-110943-3 DU	AFDV-121	Total/NA	Water	SM3500_FE_D	

### Analysis Batch: 419814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-3	AFDV-121	Total/NA	Water	SM 2320B	
280-110943-4	AFDV-130	Total/NA	Water	SM 2320B	
280-110943-5	AFDV-144	Total/NA	Water	SM 2320B	
280-110943-12	AFDV-109	Total/NA	Water	SM 2320B	
280-110943-13	AFDV-101	Total/NA	Water	SM 2320B	
280-110943-14	AFDV-117	Total/NA	Water	SM 2320B	
MB 280-419814/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-419814/4	Lab Control Sample	Total/NA	Water	SM 2320B	
280-110879-A-6 DU	Duplicate	Total/NA	Water	SM 2320B	

### Analysis Batch: 420381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-1	AFDV-104	Total/NA	Water	9060	
280-110943-2	AFDV-111	Total/NA	Water	9060	
280-110943-3	AFDV-121	Total/NA	Water	9060	
280-110943-4	AFDV-130	Total/NA	Water	9060	
280-110943-5	AFDV-144	Total/NA	Water	9060	
280-110943-6	AFDV-114	Total/NA	Water	9060	

TestAmerica Denver



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## General Chemistry (Continued)

### Analysis Batch: 420381 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-7	AFDV-140	Total/NA	Water	9060	
280-110943-8	AFDV-115	Total/NA	Water	9060	
280-110943-9	AFDV-138	Total/NA	Water	9060	
280-110943-10	AFDV-107	Total/NA	Water	9060	
280-110943-12	AFDV-109	Total/NA	Water	9060	
280-110943-13	AFDV-101	Total/NA	Water	9060	
280-110943-14	AFDV-117	Total/NA	Water	9060	
280-110943-15	AFDV-113	Total/NA	Water	9060	
280-110943-16	AFDV-139	Total/NA	Water	9060	
280-110943-17	AFDV-141	Total/NA	Water	9060	
280-110943-18	AFDV-142	Total/NA	Water	9060	
MB 280-420381/35	Method Blank	Total/NA	Water	9060	
LCS 280-420381/34	Lab Control Sample	Total/NA	Water	9060	
280-110943-3 MS	AFDV-121	Total/NA	Water	9060	
280-110943-3 MSD	AFDV-121	Total/NA	Water	9060	
280-110943-9 MS	AFDV-138	Total/NA	Water	9060	
280-110943-9 MSD	AFDV-138	Total/NA	Water	9060	

### Analysis Batch: 421176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-1	AFDV-104	Total/NA	Water	300.0	
280-110943-2	AFDV-111	Total/NA	Water	300.0	
280-110943-3	AFDV-121	Total/NA	Water	300.0	
280-110943-4	AFDV-130	Total/NA	Water	300.0	
280-110943-5	AFDV-144	Total/NA	Water	300.0	
280-110943-6	AFDV-114	Total/NA	Water	300.0	
280-110943-7	AFDV-140	Total/NA	Water	300.0	
280-110943-8	AFDV-115	Total/NA	Water	300.0	
280-110943-9	AFDV-138	Total/NA	Water	300.0	
MB 280-421176/6	Method Blank	Total/NA	Water	300.0	
LCS 280-421176/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-421176/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-421176/3	Lab Control Sample	Total/NA	Water	300.0	
280-110943-3 MS	AFDV-121	Total/NA	Water	300.0	
280-110943-3 MSD	AFDV-121	Total/NA	Water	300.0	
280-110943-9 MS	AFDV-138	Total/NA	Water	300.0	
280-110943-9 MSD	AFDV-138	Total/NA	Water	300.0	
280-110943-3 DU	AFDV-121	Total/NA	Water	300.0	
280-110943-9 DU	AFDV-138	Total/NA	Water	300.0	

### Analysis Batch: 421505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-10	AFDV-107	Total/NA	Water	300.0	
280-110943-11	AFDV-143	Total/NA	Water	300.0	
280-110943-12	AFDV-109	Total/NA	Water	300.0	
280-110943-13	AFDV-101	Total/NA	Water	300.0	
280-110943-14	AFDV-117	Total/NA	Water	300.0	
280-110943-16	AFDV-139	Total/NA	Water	300.0	
MB 280-421505/6	Method Blank	Total/NA	Water	300.0	
LCS 280-421505/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-421505/5	Lab Control Sample Dup	Total/NA	Water	300.0	

TestAmerica Denver



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## General Chemistry (Continued)

### Analysis Batch: 421505 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 280-421505/3	Lab Control Sample	Total/NA	Water	300.0	
280-110851-A-31 MS	Matrix Spike	Total/NA	Water	300.0	
280-110851-A-31 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-111725-G-3 MS	Matrix Spike	Total/NA	Water	300.0	
280-111725-G-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-110851-A-31 DU	Duplicate	Total/NA	Water	300.0	
280-111725-G-3 DU	Duplicate	Total/NA	Water	300.0	

### Analysis Batch: 421617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-110943-15	AFDV-113	Total/NA	Water	300.0	
280-110943-17	AFDV-141	Total/NA	Water	300.0	
280-110943-18	AFDV-142	Total/NA	Water	300.0	
MB 280-421617/12	Method Blank	Total/NA	Water	300.0	
LCS 280-421617/60	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-421617/61	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-421617/3	Lab Control Sample	Total/NA	Water	300.0	
280-111006-B-6 MS	Matrix Spike	Total/NA	Water	300.0	
280-111006-B-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-111006-B-6 DU	Duplicate	Total/NA	Water	300.0	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-104

Date Collected: 06/13/18 11:30

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 11:19	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	10	20 mL	20 mL	420184	06/27/18 11:40	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 15:16	AJA	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 03:38	A1D	TAL DEN

## Client Sample ID: AFDV-111

Date Collected: 06/13/18 11:20

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	20 mL	20 mL	420184	06/27/18 12:00	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	2000	20 mL	20 mL	420184	06/27/18 12:39	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 15:34	AJA	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 01:00	A1D	TAL DEN

## Client Sample ID: AFDV-121

Date Collected: 06/13/18 10:05

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 09:58	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	10	20 mL	20 mL	420184	06/27/18 10:18	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419946	06/25/18 19:42	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 15:52	AJA	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418593	06/14/18 17:26	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 06:00	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419814	06/23/18 14:00	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418908	06/18/18 07:45	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	419575	06/22/18 08:29	IEU	TAL DEN

## Client Sample ID: AFDV-130

Date Collected: 06/13/18 10:00

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 13:00	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	4	20 mL	20 mL	420184	06/27/18 13:20	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419946	06/25/18 21:47	KRP	TAL DEN
Total/NA	Analysis	RSK-175		18	18 mL	18 mL	420106	06/26/18 21:56	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 17:03	AJA	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-130**

**Date Collected: 06/13/18 10:00**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-4**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	418593	06/14/18 19:53	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 03:57	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419814	06/23/18 14:08	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418908	06/18/18 07:45	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		5	25 mL	25 mL	419575	06/22/18 08:29	IEU	TAL DEN

**Client Sample ID: AFDV-144**

**Date Collected: 06/13/18 12:00**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-5**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 13:41	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419946	06/25/18 22:01	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 17:21	AJA	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418593	06/14/18 20:16	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 03:05	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419814	06/23/18 14:13	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418908	06/18/18 07:45	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	419575	06/22/18 08:31	IEU	TAL DEN

**Client Sample ID: AFDV-114**

**Date Collected: 06/13/18 14:50**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-6**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	20 mL	20 mL	420184	06/27/18 14:01	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	100	20 mL	20 mL	420184	06/27/18 14:22	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 17:39	AJA	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 04:16	A1D	TAL DEN

**Client Sample ID: AFDV-140**

**Date Collected: 06/13/18 14:10**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	20 mL	20 mL	420184	06/27/18 14:42	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	100	20 mL	20 mL	420184	06/27/18 15:03	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 17:57	AJA	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 05:42	A1D	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Client Sample ID: AFDV-115

Date Collected: 06/13/18 14:55

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	20 mL	20 mL	420184	06/27/18 15:24	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	100	20 mL	20 mL	420184	06/27/18 15:44	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 18:50	AJA	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 05:25	A1D	TAL DEN

## Client Sample ID: AFDV-138

Date Collected: 06/13/18 14:30

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420311	06/27/18 20:06	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	4	20 mL	20 mL	420311	06/27/18 21:05	JNL	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421176	07/05/18 19:08	AJA	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 02:04	A1D	TAL DEN

## Client Sample ID: AFDV-107

Date Collected: 06/13/18 16:09

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	20 mL	20 mL	420184	06/27/18 16:05	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	100	20 mL	20 mL	420184	06/27/18 16:25	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421505	07/10/18 02:33	TLP	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 04:34	A1D	TAL DEN

## Client Sample ID: AFDV-143

Date Collected: 06/13/18 16:40

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	5 mL	5 mL	421505	07/10/18 02:55	TLP	TAL DEN

## Client Sample ID: AFDV-109

Date Collected: 06/13/18 10:05

Date Received: 06/14/18 09:00

## Lab Sample ID: 280-110943-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 17:12	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419946	06/25/18 22:15	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418593	06/14/18 20:38	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421505	07/10/18 03:17	TLP	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-109**

**Date Collected: 06/13/18 10:05**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-12**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060		1			420381	06/28/18 07:47	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419814	06/23/18 14:19	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418908	06/18/18 07:45	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	419575	06/22/18 08:31	IEU	TAL DEN

**Client Sample ID: AFDV-101**

**Date Collected: 06/13/18 10:15**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-13**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 17:32	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	419946	06/25/18 22:29	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418593	06/14/18 21:00	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421505	07/10/18 03:40	TLP	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 07:28	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419814	06/23/18 14:25	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418908	06/18/18 07:45	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	419575	06/22/18 08:31	IEU	TAL DEN

**Client Sample ID: AFDV-117**

**Date Collected: 06/13/18 11:40**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-14**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 17:53	TAW	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	420106	06/26/18 14:17	KRP	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	418593	06/14/18 21:22	CCJ	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421505	07/10/18 04:02	TLP	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 03:21	A1D	TAL DEN
Total/NA	Analysis	SM 2320B		1			419814	06/23/18 14:33	LPL	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	418908	06/18/18 07:45	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	419575	06/22/18 08:31	IEU	TAL DEN

**Client Sample ID: AFDV-113**

**Date Collected: 06/13/18 15:45**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-15**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	20 mL	20 mL	420184	06/27/18 18:13	TAW	TAL DEN
Total/NA	Analysis	8260B	DL	5000	20 mL	20 mL	420184	06/27/18 18:34	TAW	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	421617	07/11/18 11:31	CCJ	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060		1			420381	06/28/18 01:15	A1D	TAL DEN

**Client Sample ID: AFDV-139**

**Lab Sample ID: 280-110943-16**

**Date Collected: 06/13/18 14:20**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420929	07/03/18 16:04	TAW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421505	07/10/18 04:46	TLP	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 02:50	A1D	TAL DEN

**Client Sample ID: AFDV-141**

**Lab Sample ID: 280-110943-17**

**Date Collected: 06/13/18 15:40**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		400	20 mL	20 mL	422211	07/14/18 04:43	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	4000	20 mL	20 mL	422211	07/14/18 05:04	JNL	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	421617	07/11/18 11:53	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 07:12	A1D	TAL DEN

**Client Sample ID: AFDV-142**

**Lab Sample ID: 280-110943-18**

**Date Collected: 06/13/18 15:45**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		400	20 mL	20 mL	422211	07/14/18 05:25	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	4000	20 mL	20 mL	422211	07/14/18 05:46	JNL	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	421617	07/11/18 12:15	CCJ	TAL DEN
Total/NA	Analysis	9060		1			420381	06/28/18 06:53	A1D	TAL DEN

**Client Sample ID: AFDV-105**

**Lab Sample ID: 280-110943-19**

**Date Collected: 06/13/18 14:38**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	422211	07/14/18 06:06	JNL	TAL DEN

**Client Sample ID: AFDV-149**

**Lab Sample ID: 280-110943-20**

**Date Collected: 06/13/18 11:59**

**Matrix: Water**

**Date Received: 06/14/18 09:00**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 08:56	TAW	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

**Client Sample ID: AFDV-150**

**Date Collected: 06/13/18 12:00**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-21**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 09:17	TAW	TAL DEN

**Client Sample ID: AFDV-151**

**Date Collected: 06/13/18 16:30**

**Date Received: 06/14/18 09:00**

**Lab Sample ID: 280-110943-22**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420184	06/27/18 09:37	TAW	TAL DEN

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

## Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Iowa	State Program	7	370	12-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,2-Dichloroethane
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Chloroethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	Ethylbenzene
8260B		Water	Methyl ethyl ketone (MEK)
8260B		Water	Methylene Chloride
8260B		Water	m-Xylene & p-Xylene
8260B		Water	o-Xylene
8260B		Water	Styrene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	Trichloroethene
8260B		Water	Vinyl chloride
8260B		Water	Xylenes, Total
9060		Water	Total Organic Carbon - Average
RSK-175		Water	Ethane
RSK-175		Water	Ethene
RSK-175		Water	Methane
SM3500_FE_D		Water	Ferrous Iron

Oregon	NELAP	10	4025	01-08-19
--------	-------	----	------	----------

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
9060		Water	Total Organic Carbon - Average
SM3500_FE_D		Water	Ferrous Iron



## Method Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
RSK-175	Dissolved Gases (GC)	RSK	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
9060	Organic Carbon, Total (TOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 4500 S2 F	Sulfide, Total	SM	TAL DEN
SM3500_FE_D	Ferrous Iron	SM20	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Sample Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-110943-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-110943-1	AFDV-104	Water	06/13/18 11:30	06/14/18 09:00
280-110943-2	AFDV-111	Water	06/13/18 11:20	06/14/18 09:00
280-110943-3	AFDV-121	Water	06/13/18 10:05	06/14/18 09:00
280-110943-4	AFDV-130	Water	06/13/18 10:00	06/14/18 09:00
280-110943-5	AFDV-144	Water	06/13/18 12:00	06/14/18 09:00
280-110943-6	AFDV-114	Water	06/13/18 14:50	06/14/18 09:00
280-110943-7	AFDV-140	Water	06/13/18 14:10	06/14/18 09:00
280-110943-8	AFDV-115	Water	06/13/18 14:55	06/14/18 09:00
280-110943-9	AFDV-138	Water	06/13/18 14:30	06/14/18 09:00
280-110943-10	AFDV-107	Water	06/13/18 16:09	06/14/18 09:00
280-110943-11	AFDV-143	Water	06/13/18 16:40	06/14/18 09:00
280-110943-12	AFDV-109	Water	06/13/18 10:05	06/14/18 09:00
280-110943-13	AFDV-101	Water	06/13/18 10:15	06/14/18 09:00
280-110943-14	AFDV-117	Water	06/13/18 11:40	06/14/18 09:00
280-110943-15	AFDV-113	Water	06/13/18 15:45	06/14/18 09:00
280-110943-16	AFDV-139	Water	06/13/18 14:20	06/14/18 09:00
280-110943-17	AFDV-141	Water	06/13/18 15:40	06/14/18 09:00
280-110943-18	AFDV-142	Water	06/13/18 15:45	06/14/18 09:00
280-110943-19	AFDV-105	Water	06/13/18 14:38	06/14/18 09:00
280-110943-20	AFDV-149	Water	06/13/18 11:59	06/14/18 09:00
280-110943-21	AFDV-150	Water	06/13/18 12:00	06/14/18 09:00
280-110943-22	AFDV-151	Water	06/13/18 16:30	06/14/18 09:00



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 413853Lab Sample ID: ICV 280-413853/24 Client Sample ID: \_\_\_\_\_Date Analyzed: 05/05/18 15:46 Lab File ID: MS1\_1636.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethylene oxide		Invalid Compound ID	wickhamt	05/07/18 06:39



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 418017Lab Sample ID: STD003 280-418017/12 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/11/18 12:30 Lab File ID: MS1\_3162.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl acetate	6.17	Wrong peak	wickhamt	06/12/18 06:38
2-Chloroethyl vinyl ether		Invalid Compound ID	wickhamt	06/11/18 12:50
4-Bromofluorobenzene (Surr)		Invalid Compound ID	wickhamt	06/11/18 12:50
Dibromofluoromethane (Surr)		Invalid Compound ID	wickhamt	06/11/18 12:50
Tert-butyl alcohol (2-methyl-2-propanol)		Invalid Compound ID	wickhamt	06/11/18 12:50
Toluene-d8 (Surr)		Invalid Compound ID	wickhamt	06/11/18 12:50

Lab Sample ID: STD01 280-418017/13 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/11/18 12:50 Lab File ID: MS1\_3163.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl acetate	6.16	Wrong peak	wickhamt	06/12/18 06:37
trans-1,4-Dichloro-2-butene	10.72	Wrong peak	wickhamt	06/11/18 13:29

Lab Sample ID: STD02 280-418017/14 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/11/18 13:11 Lab File ID: MS1\_3164.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl acetate	6.16	Wrong peak	wickhamt	06/11/18 13:38

Lab Sample ID: STD05 280-418017/15 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/11/18 13:32 Lab File ID: MS1\_3165.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl acetate	6.16	Wrong peak	wickhamt	06/12/18 06:37



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 418017Lab Sample ID: ICIS 280-418017/16 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/11/18 13:52 Lab File ID: MS1\_3166.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Vinyl acetate	6.16	Wrong peak	wickhamt	06/12/18 06:34

Lab Sample ID: STD60 280-418017/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/11/18 14:33 Lab File ID: MS1\_3168.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
m-Xylene & p-Xylene	9.93	Wrong peak	wickhamt	06/12/18 06:41
n-Butylbenzene	11.87	Wrong peak	wickhamt	06/12/18 06:42



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 420184Lab Sample ID: 280-110943-2 Client Sample ID: AFDV-111Date Analyzed: 06/27/18 12:00 Lab File ID: MS1\_3665.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	06/27/18 12:22
Styrene		Invalid Compound ID	wickhamt	06/27/18 12:22

Lab Sample ID: 280-110943-4 Client Sample ID: AFDV-130Date Analyzed: 06/27/18 13:00 Lab File ID: MS1\_3667.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Styrene		Invalid Compound ID	wickhamt	06/27/18 13:22

Lab Sample ID: 280-110943-5 Client Sample ID: AFDV-144Date Analyzed: 06/27/18 13:41 Lab File ID: MS1\_3669.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
o-Xylene		Invalid Compound ID	wickhamt	06/27/18 14:02

Lab Sample ID: 280-110943-6 Client Sample ID: AFDV-114Date Analyzed: 06/27/18 14:01 Lab File ID: MS1\_3670.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	06/28/18 06:09
Styrene		Invalid Compound ID	wickhamt	06/28/18 06:09



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 420184Lab Sample ID: 280-110943-7 Client Sample ID: AFDV-140Date Analyzed: 06/27/18 14:42 Lab File ID: MS1\_3672.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	06/28/18 06:10
Styrene		Invalid Compound ID	wickhamt	06/28/18 06:10

Lab Sample ID: 280-110943-8 Client Sample ID: AFDV-115Date Analyzed: 06/27/18 15:24 Lab File ID: MS1\_3674.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	06/28/18 06:27
Styrene		Invalid Compound ID	wickhamt	06/28/18 06:28

Lab Sample ID: 280-110943-15 Client Sample ID: AFDV-113Date Analyzed: 06/27/18 18:13 Lab File ID: MS1\_3681.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Styrene		Invalid Compound ID	wickhamt	06/28/18 06:30



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 420929Lab Sample ID: 280-110943-16 Client Sample ID: AFDV-139Date Analyzed: 07/03/18 16:04 Lab File ID: MS1\_3945.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	wickhamt	07/05/18 06:53



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Analysis Batch Number: 421403Lab Sample ID: STD03 280-421403/10 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 16:27 Lab File ID: MS9\_2368.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol		Invalid Compound ID	linesj	07/09/18 17:46

Lab Sample ID: ICV 280-421403/17 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 16:48 Lab File ID: MS9\_2369.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	6.51	Wrong peak	linesj	07/08/18 17:36

Lab Sample ID: STD2 280-421403/25 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 18:32 Lab File ID: MS9\_2374.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.93	Assign Peak	linesj	07/09/18 18:37

Lab Sample ID: STD1 280-421403/24 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 18:53 Lab File ID: MS9\_2375.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Propanol		Invalid Compound ID	linesj	07/09/18 18:36
Ethanol		Invalid Compound ID	linesj	07/09/18 18:36



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Analysis Batch Number: 422211Lab Sample ID: 280-110943-18 Client Sample ID: AFDV-142Date Analyzed: 07/14/18 05:25 Lab File ID: MS9\_2567.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)		Invalid Compound ID	linesj	07/16/18 18:23

Lab Sample ID: 280-110943-19 Client Sample ID: AFDV-105Date Analyzed: 07/14/18 06:06 Lab File ID: MS9\_2569.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	linesj	07/16/18 18:24



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 Analysis Batch Number: 419367Lab Sample ID: STD1 280-419367/15 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/21/18 02:08 Lab File ID: R2076.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	7.66	Assign Peak	linesj	06/21/18 18:09

Lab Sample ID: STD03 280-419367/16 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/21/18 02:28 Lab File ID: R2077.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol		Invalid Compound ID	linesj	06/21/18 18:03

Lab Sample ID: STD 280-419367/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/21/18 07:34 Lab File ID: R2085.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
n-Butanol	7.14	Shouldering	linesj	06/21/18 20:27



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 418001Lab Sample ID: IC 280-418001/8 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/10/18 20:52 Lab File ID: 06100008.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	2.84	Incomplete Integration	perssonk	06/11/18 10:55

Lab Sample ID: IC 280-418001/10 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/10/18 21:20 Lab File ID: 06100010.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.52	Incomplete Integration	perssonk	06/11/18 10:04

Lab Sample ID: IC 280-418001/11 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/10/18 21:34 Lab File ID: 06100011.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.84	Incomplete Integration	perssonk	06/11/18 10:05



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8 Analysis Batch Number: 416827Lab Sample ID: STD 280-416827/5 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 05/30/18 18:11 Lab File ID: 05.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Orthophosphate as P	12.63	Incomplete Integration	allena	05/31/18 08:22



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8 Analysis Batch Number: 418593Lab Sample ID: 280-110943-3 MS Client Sample ID: AFDV-121 MSDate Analyzed: 06/14/18 19:09 Lab File ID: 09.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	5.33	Peak assignment corrected	phantl	06/14/18 21:43

Lab Sample ID: 280-110943-3 MSD Client Sample ID: AFDV-121 MSDDate Analyzed: 06/14/18 19:31 Lab File ID: 10.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	5.33	Peak assignment corrected	phantl	06/14/18 21:43



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8 Analysis Batch Number: 421505Lab Sample ID: 280-111725-G-3 DU Client Sample ID: \_\_\_\_\_Date Analyzed: 07/09/18 21:22 Lab File ID: 08.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.59	Incomplete Integration	phantl	07/09/18 22:28

Lab Sample ID: 280-110943-12 Client Sample ID: AFDV-109Date Analyzed: 07/10/18 03:17 Lab File ID: 24.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.48	Incomplete Integration	phantl	07/10/18 15:04

Lab Sample ID: 280-110943-13 Client Sample ID: AFDV-101Date Analyzed: 07/10/18 03:40 Lab File ID: 25.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.52	Incomplete Integration	phantl	07/10/18 15:05

Lab Sample ID: 280-110943-14 Client Sample ID: AFDV-117Date Analyzed: 07/10/18 04:02 Lab File ID: 26.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.50	Incomplete Integration	phantl	07/10/18 15:05



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>Alk daily lcs 00750</b>	06/28/18	06/22/18	Di Water, Lot na	1000 mL	Alk stk std_00014	4 mL	Alkalinity	200 mg/L
.Alk stk std_00014	04/30/19		Fischer, Lot 172632		(Purchased Reagent)		Alkalinity	50 g/L
<b>FE Cal INT_00495</b>	05/22/18	05/21/18	Di Water, Lot na	500 mL	FE Stock Cal_00004	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock Cal_00004	05/31/21		Hach, Lot A7142		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>FE Cal INT_00499</b>	06/23/18	06/22/18	Di Water, Lot na	500 mL	FE Stock Cal_00004	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock Cal_00004	05/31/21		Hach, Lot A7142		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>FE ICV INT_00499</b>	06/23/18	06/22/18	Di Water, Lot na	500 mL	FE Stock ICV_00002	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock ICV_00002	11/21/23		Fisher, Lot 136285		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>Freon_A_00009</b>	07/03/18	04/03/18	P&T Methanol, Lot 118655	10 mL	MV-98948_00001	200 uL	1,1,1-Trifluoro-2,2-dichloroethane	40 ug/mL
							1,2-Dichloro-1,1,2,2-tetrafluoroethane	40 ug/mL
							1,2-Dichloro-1,1,2-trifluoroethane	40 ug/mL
							2-Chloro-1,1,1-Trifluoroethane	40 ug/mL
							Chlorotrifluoroethene	40 ug/mL
.MV-98948_00001	03/07/18		Absolute, Lot 090617		(Purchased Reagent)		1,1,1-Trifluoro-2,2-dichloroethane	2000 ug/mL
							1,2-Dichloro-1,1,2,2-tetrafluoroethane	2000 ug/mL
							1,2-Dichloro-1,1,2-trifluoroethane	2000 ug/mL
							2-Chloro-1,1,1-Trifluoroethane	2000 ug/mL
							Chlorotrifluoroethene	2000 ug/mL
<b>IC CAL cl/so4_00202</b>	06/08/18	06/01/18	Di Water, Lot na	100 mL	IC CL cal_00051	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00051	08/30/18		SPEX CertiPrep, Lot 4-72CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00205</b>	06/30/18	06/23/18	Di Water, Lot na	100 mL	IC CL cal_00051	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00051	08/30/18		SPEX CertiPrep, Lot 4-72CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00206</b>	07/07/18	06/30/18	Di Water, Lot na	100 mL	IC CL cal_00051	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00051	08/30/18		SPEX CertiPrep, Lot 4-72CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00207</b>	07/14/18	07/07/18	Di Water, Lot na	100 mL	IC CL cal_00053	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal_00053	03/30/19		SPEX CertiPrep, Lot 4-101CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC Cal low_00370</b>	06/02/18	05/26/18	Di Water, Lot NA	100 mL	IC N02 CAL_00042	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
					IC P04 cal_00018	5 mL	Orthophosphate as P	50 mg/L
.IC N02 CAL_00042	08/31/18		RICCA, Lot 1802e42		(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		(Purchased Reagent)		Nitrate as N	1000 mg/L



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.IC P04 cal_00018	11/30/19		RICCA, Lot 4711L59		(Purchased Reagent)		Orthophosphate as P	1000 mg/L
<b>IC Cal low_00373</b>	06/11/18	06/04/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
.IC Br cal_00015	01/31/19		Ricca, Lot 4707D55		IC FL cal_00012	5 mL	Fluoride	50 mg/L
.IC FL cal_00012	10/31/18		Ricca, Lot 4704K15		(Purchased Reagent)		Bromide	1000 mg/L
<b>IC Cal low_00377</b>	06/21/18	06/14/18	Di Water, Lot NA	100 mL	(Purchased Reagent)		Fluoride	1000 mg/L
.IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
<b>IC Cal low_00380</b>	07/02/18	06/25/18	Di Water, Lot NA	100 mL	(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC Br cal_00015	01/31/19		Ricca, Lot 4707D55		IC Br cal_00015	5 mL	Bromide	50 mg/L
.IC FL cal_00012	10/31/18		Ricca, Lot 4704K15		IC FL cal_00012	5 mL	Fluoride	50 mg/L
<b>IC CL ICV_00014</b>	01/31/19		ERA, Lot 190117		(Purchased Reagent)		Bromide	1000 mg/L
<b>IC LCS_01256</b>	06/15/18	06/14/18	Di Water, Lot 27	200 mL	(Purchased Reagent)		Chloride	1000 mg/L
.IC Cal low_00377	06/21/18	06/14/18	Di Water, Lot NA	100 mL	IC Cal low_00377	20 mL	Nitrate as N	5 mg/L
..IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
<b>IC LCS_01274</b>	07/06/18	07/05/18	Di Water, Lot 27	200 mL	(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC CL cal_00053	03/30/19		SPEX CertiPrep, Lot 4-101CL-2X		IC CL cal_00053	20 mL	Chloride	100 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		IC sulfatecal_00052	20 mL	Sulfate	100 mg/L
<b>IC LCS_01277</b>	07/10/18	07/09/18	Di Water, Lot 27	200 mL	(Purchased Reagent)		Chloride	1000 mg/L
.IC CL cal_00053	03/30/19		SPEX CertiPrep, Lot 4-101CL-2X		IC CL cal_00053	20 mL	Chloride	100 mg/L
.IC sulfatecal_00052	04/30/19		SPEX CertiPrep, Lot 4-65S04-2X		IC sulfatecal_00052	20 mL	Sulfate	100 mg/L
<b>IC LCS_01278</b>	07/11/18	07/10/18	Di Water, Lot 27	200 mL	(Purchased Reagent)		Chloride	1000 mg/L
.IC CL cal_00053	03/30/19		SPEX CertiPrep, Lot 4-101CL-2X		IC CL cal_00053	20 mL	Chloride	100 mg/L
<b>IC SO4 ICV_00017</b>	06/30/19		ERA, Lot 210617		(Purchased Reagent)		Sulfate	1000 mg/L
<b>ICMS/MSD WEEK_00537</b>	06/19/18	06/12/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00019	5 mL	Nitrate as N	500.003 mg/L
.IC SPK 6 ANIO_00019	08/23/18	08/23/17	Di Water, Lot NA	1000 mL	IC MS/MSD N03_00004	6.068 g	Nitrate as N	1000.01 mg/L
..IC MS/MSD N03_00004	10/02/18		FISHER, Lot 035600		(Purchased Reagent)		Nitrate as N	0.1648 g/g
<b>ICMS/MSD WEEK_00540</b>	07/09/18	07/02/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00019	5 mL	Chloride	2499.92 mg/L
.IC SPK 6 ANIO_00019	08/23/18	08/23/17	Di Water, Lot NA	1000 mL	IC MS/MSD CL_00002	8.2424 g	Sulfate	2500.26 mg/L
..IC MS/MSD CL_00002	01/13/21		FISHER, Lot 091363		IC MS/MSD S04_00005	9.0704 g	Chloride	4999.84 mg/L
..IC MS/MSD S04_00005	09/29/20		FISHER, Lot 147276		(Purchased Reagent)		Sulfate	5000.51 mg/L
<b>ICMS/MSD WEEK_00541</b>	07/16/18	07/09/18	Di Water, Lot NA	10 mL	(Purchased Reagent)		Chloride	0.6066 g/g
.IC SPK 6 ANIO_00019	08/23/18	08/23/17	Di Water, Lot NA	1000 mL	IC SPK 6 ANIO_00019	5 mL	Sulfate	0.5513 g/g
..IC MS/MSD CL_00002	01/13/21		FISHER, Lot 091363		IC MS/MSD CL_00002	8.2424 g	Chloride	2499.92 mg/L
..IC MS/MSD S04_00005	09/29/20		FISHER, Lot 147276		IC MS/MSD S04_00005	9.0704 g	Sulfate	2500.26 mg/L
<b>MV-2c1eve+AVA_00036</b>	08/31/18	06/01/18	P&T Methanol, Lot 177891	10 mL	(Purchased Reagent)		Chloride	4999.84 mg/L
					MV-568720_00021	202.5 uL	Sulfate	5000.51 mg/L
					(Purchased Reagent)		Acrolein	399.938 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MV-569723_00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL
					MV-569724_00015	160 uL	Vinyl acetate	80 ug/mL
.MV-568720_00021	08/31/18		RESTEK, Lot A0135693		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569723_00003	01/31/20		RESTEK, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00015	08/31/18		RESTEK, Lot A0135506		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
<b>MV-568718-D_00008</b>	03/31/21		RESTEK, Lot A0118105		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-568718-D_00014</b>	05/31/22		RESTEK, Lot A0127975		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-ARCH SS A_00090</b>	06/21/18	12/21/17	P&T Methanol, Lot 177891	100 mL	MV-567650_00027	10 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00098</b>	12/13/18	06/13/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00099</b>	12/13/18	06/22/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-BFB_00025</b>							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
<b>MV-BFB_00026</b>							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
<b>MV-Gas/Ket A_00073</b>	11/07/18	05/07/18	P&T Methanol, Lot 177891	10 mL	MV-569721_00004	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00006	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890		(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MV-Gas/Ket A_00074	12/01/18	06/01/18	P&T Methanol, Lot 178178	10 mL	MV-569721_00006	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00008	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
MV-569727_00006	640 uL	Vinyl chloride	40 ug/mL					
		Cyclohexanone	1600 ug/mL					
.MV-569721_00006	10/31/20	RESTEK, Lot A0131486			(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722_00008	10/31/20	RESTEK, Lot A0131502			(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569727_00006	03/31/19	RESTEK, Lot A0118487			(Purchased Reagent)		Cyclohexanone	25000 ug/mL
MV-Gas/Ket A_00075	12/30/18	06/30/18	P&T Methanol, Lot 178178	10 mL	MV-569721_00006	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00008	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
MV-569727_00006	640 uL	Vinyl chloride	40 ug/mL					
		Cyclohexanone	1600 ug/mL					
.MV-569721_00006	10/31/20	RESTEK, Lot A0131486			(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722_00008	10/31/20	RESTEK, Lot A0131502			(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
								2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)		Vinyl chloride	2500 ug/mL
							Cyclohexanone	25000 ug/mL
<b>MV-Gas/Ket B_00042</b>	10/21/18	04/21/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722.sec_00004	160 uL	Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722.sec_00004	01/31/20		RESTEK, Lot A0124116		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
<b>MV-Gas/Ket B_00043</b>	11/30/18	05/28/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722.sec_00004	160 uL	Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722.sec_00004	01/31/20		RESTEK, Lot A0124116		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
<b>MV-Main A_00036</b>	06/30/18	04/27/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1,2-Tetrachloroethane	40 ug/mL
							1,1,1-Trichloroethane	40 ug/mL
							1,1,2,2-Tetrachloroethane	40 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor	40 ug/mL
							oethane	
							1,1,2-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,1-Dichloropropene	40 ug/mL
							1,2,3-Trichlorobenzene	40 ug/mL
							1,2,3-Trichloropropene	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2,4-Trimethylbenzene	40 ug/mL
							1,2-Dibromo-3-Chloropropene	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							1,2-Dichloropropene	40 ug/mL
							1,3,5-Trimethylbenzene	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dichloropropene	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	800 ug/mL
							2,2-Dichloropropene	40 ug/mL
							2-Chlorotoluene	40 ug/mL
							2-Methyl-2-propanol	400 ug/mL
							3-Chloro-1-propene	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorotoluene	40 ug/mL
							4-Isopropyltoluene	40 ug/mL
							Acrylonitrile	400 ug/mL
							Benzene	40 ug/mL
							Bromobenzene	40 ug/mL
							Bromoform	40 ug/mL
							Carbon disulfide	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chlorobromomethane	40 ug/mL
							Chlorodibromomethane	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							cis-1,3-Dichloropropene	40 ug/mL
							Cyclohexane	40 ug/mL
							Dibromomethane	40 ug/mL
							Dichlorobromomethane	40 ug/mL
							Ethyl ether	40 ug/mL
							Ethyl methacrylate	40 ug/mL
							Ethylbenzene	40 ug/mL
							Ethylene Dibromide	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexane	40 ug/mL
							Iodomethane	40 ug/mL
							Isobutyl alcohol	1000 ug/mL
							Isopropylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methyl acetate	80 ug/mL
							Methyl tert-butyl ether	40 ug/mL
							Methylcyclohexane	40 ug/mL
							Methylene Chloride	40 ug/mL
							n-Butylbenzene	40 ug/mL
							n-Heptane	40 ug/mL
							N-Propylbenzene	40 ug/mL
							Naphthalene	40 ug/mL
							o-Xylene	40 ug/mL
							sec-Butylbenzene	40 ug/mL
							Styrene	40 ug/mL
							tert-Butylbenzene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Tetrahydrofuran	80 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							trans-1,3-Dichloropropene	40 ug/mL
							trans-1,4-Dichloro-2-butene	40 ug/mL
							Trichloroethene	40 ug/mL
					MV-CUS17739_00002	800 uL	1-Chlorohexane	40 ug/mL
							2-Pentanone	160 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		sec-Butyl Alcohol	1200 ug/mL
							1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
Trichloroethene	2500 ug/mL							
.MV-CUS17739_00002	07/31/19	Ultra, Lot CR-2819			(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
						2-Pentanone	4000 ug/mL	
						sec-Butyl Alcohol	30000 ug/mL	
MV-Main A_00036	06/30/18	04/27/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	Xylenes, Total	80 ug/mL
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			(Purchased Reagent)		Xylenes, Total	5000 ug/mL
MV-Main A_00037	12/31/18	06/30/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1,2-Tetrachloroethane	40 ug/mL
							1,1,1-Trichloroethane	40 ug/mL
							1,1,2,2-Tetrachloroethane	40 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	40 ug/mL
							1,1,2-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,1-Dichloropropene	40 ug/mL
							1,2,3-Trichlorobenzene	40 ug/mL
							1,2,3-Trichloropropane	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2,4-Trimethylbenzene	40 ug/mL
							1,2-Dibromo-3-Chloropropane	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichloropropane	40 ug/mL
							1,3,5-Trimethylbenzene	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dichloropropane	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	800 ug/mL
							2,2-Dichloropropane	40 ug/mL
							2-Chlorotoluene	40 ug/mL
							2-Methyl-2-propanol	400 ug/mL
							3-Chloro-1-propene	40 ug/mL
							4-Chlorotoluene	40 ug/mL
							4-Isopropyltoluene	40 ug/mL
							Acrylonitrile	400 ug/mL
							Benzene	40 ug/mL
							Bromobenzene	40 ug/mL
							Bromoform	40 ug/mL
							Carbon disulfide	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chlorobromomethane	40 ug/mL
							Chlorodibromomethane	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							cis-1,3-Dichloropropene	40 ug/mL
							Cyclohexane	40 ug/mL
							Dibromomethane	40 ug/mL
							Dichlorobromomethane	40 ug/mL
							Ethyl ether	40 ug/mL
							Ethyl methacrylate	40 ug/mL
							Ethylbenzene	40 ug/mL
							Ethylene Dibromide	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexane	40 ug/mL
							Iodomethane	40 ug/mL
							Isobutyl alcohol	1000 ug/mL
							Isopropylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methyl acetate	80 ug/mL
							Methyl tert-butyl ether	40 ug/mL
							Methylcyclohexane	40 ug/mL
							Methylene Chloride	40 ug/mL
							n-Butylbenzene	40 ug/mL
							n-Heptane	40 ug/mL
							N-Propylbenzene	40 ug/mL
							Naphthalene	40 ug/mL
							o-Xylene	40 ug/mL
							sec-Butylbenzene	40 ug/mL
							Styrene	40 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							tert-Butylbenzene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Tetrahydrofuran	80 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							trans-1,3-Dichloropropene	40 ug/mL
							trans-1,4-Dichloro-2-butene	40 ug/mL
					Trichloroethene	40 ug/mL		
					MV-CUS17739_00002	800 uL	1-Chlorohexane	40 ug/mL
					2-Pentanone	160 ug/mL		
sec-Butyl Alcohol	1200 ug/mL							
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739_00002	07/31/19		Ultra, Lot CR-2819		(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
MV-Main A_00037	12/31/18	06/30/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	Xylenes, Total	80 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		Xylenes, Total	5000 ug/mL
MV-Main B_00021	07/31/18	05/14/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	1,1,1-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methylene Chloride	40 ug/mL
							o-Xylene	40 ug/mL
							Styrene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
Xylenes, Total	80 ug/mL							
.MV-569720.sec_00002	07/31/18	RESTEK, Lot A0120604			(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-Supp A_00029	06/30/18	03/04/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00003	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00003	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00001	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-571994_00001	240 uL	Ethanol	2400 ug/mL
					mv-VO-TAOH-5_00004	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
							Propene oxide	4000 ug/mL
							Tetrahydrothiophene	80 ug/mL
.mv-570808_00003	06/30/18	Restek, Lot A0123685			(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00003	06/30/18		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00001	12/31/18		RESTEK, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00001	06/30/20		RESTEK, Lot A0128797		(Purchased Reagent)		Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00004	08/19/18		SPEX, Lot TS180220004		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL
<b>MV-Supp A_00030</b>	08/19/18	05/12/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00004	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00004	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00001	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-VO-TAOH-5_00004	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
							Ethylene oxide	4000 ug/mL
.mv-570808_00004	05/31/19		Restek, Lot A0132816		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00004	04/30/19		Restek, Lot A0131668		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00001	12/31/18		RESTEK, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-VO-TAOH-5_00004	08/19/18		SPEX, Lot TS180220004		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MV-Supp A_00031	11/20/18	06/30/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00004	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00004	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00002	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
Tert-butyl ethyl ether	40 ug/mL							
mv-571994_00002	240 uL	Ethanol	2400 ug/mL					
mv-VO-TAOH-5_00005	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL					
		Ethylene oxide	4000 ug/mL					
		Propene oxide	4000 ug/mL					
		Tetrahydrothiophene	80 ug/mL					
.mv-570808_00004	05/31/19	Restek, Lot A0132816			(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00004	04/30/19	Restek, Lot A0131668			(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00002	11/30/19	RESTEK, Lot A0132831			(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00002	11/30/20	RESTEK, Lot A0132270			(Purchased Reagent)		Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00005	11/20/18	SPEX, Lot EN180524019			(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL
RSK175methane_00006	09/30/18	Supelco Analytical, Lot 403-102900			(Purchased Reagent)		Methane	650500 ug/L
RSK7gasMathes_00020	10/13/18	Matheson, Lot 9306622072			(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
RSK7gasMathes_00021	11/17/18	Matheson, Lot 9306622291			(Purchased Reagent)		Acetylene	10667 ug/L
							Butane	23807 ug/L
							Ethane	12317 ug/L
							Ethene	11490 ug/L
							isobutylene	22984 ug/L



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methane	6570.3 ug/L
							Propane	18064 ug/L
RSK7gasMathes_00025	12/01/19	Matheson, Lot 9307628511			(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
RSK7gasMathes_00026	04/03/20	Matheson, Lot 9308630516			(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
SFD CAL INT_01500	09/01/18	06/18/18	Di Water, Lot NA	500 mL	SFD CAL STK_00005	4.02999 g	Sulfide	1076.01 mg/L
.SFD CAL STK_00005	12/31/23	FISHER, Lot 127305			(Purchased Reagent)		Sulfide	0.1335 g/g
TOC ICV Std_00033	06/30/18	Ricca, Lot 4706c18			(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm
TOC LCS Std_00041	06/30/20	Ultra Scientific, Lot CS-2402			(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm



# Method 8260B

---

Volatile Organic Compounds (GC/MS)  
by Method 8260B



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Level: Low

GC Column (1): DB-624 (60. ID: 0.25 (mm))

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
AFDV-104	280-110943-1	97	102	101	101
AFDV-104 DL	280-110943-1 DL	96	99	102	99
AFDV-111	280-110943-2	99	101	100	97
AFDV-111 DL	280-110943-2 DL	101	104	101	98
AFDV-121	280-110943-3	98	100	104	99
AFDV-121 DL	280-110943-3 DL	98	101	103	98
AFDV-130	280-110943-4	98	106	103	102
AFDV-130 DL	280-110943-4 DL	98	102	102	100
AFDV-144	280-110943-5	98	103	101	96
AFDV-114	280-110943-6	97	103	99	97
AFDV-114 DL	280-110943-6 DL	96	103	100	99
AFDV-140	280-110943-7	98	103	101	98
AFDV-140 DL	280-110943-7 DL	98	102	103	100
AFDV-115	280-110943-8	98	102	99	97
AFDV-115 DL	280-110943-8 DL	98	105	101	100
AFDV-138	280-110943-9	90	85	102	100
AFDV-138 DL	280-110943-9 DL	93	93	97	90
AFDV-107	280-110943-10	100	105	99	99
AFDV-107 DL	280-110943-10 DL	98	105	102	100
AFDV-109	280-110943-12	99	108	101	99
AFDV-101	280-110943-13	100	109	102	100
AFDV-117	280-110943-14	101	110	101	99
AFDV-113	280-110943-15	100	107	102	100
AFDV-113 DL	280-110943-15 DL	100	104	102	100
AFDV-139	280-110943-16	95	109	107	113
AFDV-141	280-110943-17	108	105	88	90
AFDV-141 DL	280-110943-17 DL	99	108	95	98
AFDV-142	280-110943-18	98	106	92	97
AFDV-142 DL	280-110943-18 DL	96	100	90	91
AFDV-105	280-110943-19	91	95	92	93
AFDV-149	280-110943-20	92	93	104	98
AFDV-150	280-110943-21	95	98	105	99
AFDV-151	280-110943-22	98	101	104	100
	MB 280-420184/8	97	98	103	103
	MB 280-420311/6	95	98	104	106

QC LIMITS

DBFM = Dibromofluoromethane (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)

77-120  
70-127  
80-125  
78-120

# Column to be used to flag recovery values



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low  
 GC Column (1): DB-624 (60. ID: 0.25 (mm))

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
	MB 280-420929/8	94	98	107	108
	MB 280-422211/6	95	100	88	90
	LCS 280-420184/4	97	99	101	99
	LCS 280-420311/4	90	91	98	90
	LCS 280-420929/4	93	99	105	105
	LCS 280-422211/4	90	93	87	81
AFDV-121 MS	280-110943-3 MS	99	102	100	100
AFDV-138 MS	280-110943-9 MS	84	82	101	87
	280-111257-C-5 MS	97	107	102	103
	550-105667-C-1 MS	92	93	86	88
AFDV-121 MSD	280-110943-3 MSD	97	99	99	99
AFDV-138 MSD	280-110943-9 MSD	86	85	97	85
	280-111257-A-5 MSD	96	104	102	101
	550-105667-C-1 MSD	91	93	87	86

	<u>QC LIMITS</u>
DBFM = Dibromofluoromethane (Surr)	77-120
DCA = 1,2-Dichloroethane-d4 (Surr)	70-127
TOL = Toluene-d8 (Surr)	80-125
BFB = 4-Bromofluorobenzene (Surr)	78-120

# Column to be used to flag recovery values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_3654.D  
 Lab ID: LCS 280-420184/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.64	113	65-135	
1,1-Dichloroethane	5.00	5.45	109	65-135	
1,1-Dichloroethene	5.00	5.51	110	65-136	
1,2-Dichloroethane	5.00	5.60	112	65-135	
Methyl ethyl ketone (MEK)	20.0	16.1	80	44-177	
Acetone	20.0	23.4	117	39-156	
Benzene	5.00	5.48	110	65-135	
Chloroethane	5.00	4.01	80	46-136	
cis-1,2-Dichloroethene	5.00	5.41	108	65-135	
Ethylbenzene	5.00	5.14	103	65-135	
Methylene Chloride	5.00	5.26	105	54-141	
m-Xylene & p-Xylene	5.00	5.02	100	65-135	
o-Xylene	5.00	5.01	100	65-135	
Styrene	5.00	4.58	92	65-135	
Tetrachloroethene	5.00	5.25	105	65-135	
Toluene	5.00	5.52	110	65-135	
trans-1,2-Dichloroethene	5.00	5.62	112	65-135	
Trichloroethene	5.00	5.37	107	65-135	
Vinyl chloride	5.00	3.94	79	40-137	
Xylenes, Total	10.0	10.0	100	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: R2432.D  
 Lab ID: LCS 280-420311/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	4.50	90	65-135	
1,1-Dichloroethane	5.00	4.54	91	65-135	
1,1-Dichloroethene	5.00	4.38	88	65-136	
1,2-Dichloroethane	5.00	4.44	89	65-135	
Methyl ethyl ketone (MEK)	20.0	18.0	90	44-177	
Acetone	20.0	22.6	113	39-156	
Benzene	5.00	4.42	88	65-135	
Chloroethane	5.00	4.67	93	46-136	
cis-1,2-Dichloroethene	5.00	4.33	87	65-135	
Ethylbenzene	5.00	4.72	94	65-135	
Methylene Chloride	5.00	4.37	87	54-141	
m-Xylene & p-Xylene	5.00	4.65	93	65-135	
o-Xylene	5.00	4.62	92	65-135	
Styrene	5.00	4.46	89	65-135	
Tetrachloroethene	5.00	4.85	97	65-135	
Toluene	5.00	4.82	96	65-135	
trans-1,2-Dichloroethene	5.00	4.66	93	65-135	
Trichloroethene	5.00	4.02	80	65-135	
Vinyl chloride	5.00	4.55	91	40-137	
Xylenes, Total	10.0	9.27	93	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_3922.D  
 Lab ID: LCS 280-420929/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.67	113	65-135	
1,1-Dichloroethane	5.00	5.43	109	65-135	
1,1-Dichloroethene	5.00	5.27	105	65-136	
1,2-Dichloroethane	5.00	5.43	109	65-135	
Methyl ethyl ketone (MEK)	20.0	22.1	111	44-177	
Acetone	20.0	23.3	117	39-156	
Benzene	5.00	5.33	107	65-135	
Chloroethane	5.00	4.79	96	46-136	
cis-1,2-Dichloroethene	5.00	5.11	102	65-135	
Ethylbenzene	5.00	5.24	105	65-135	
Methylene Chloride	5.00	4.89	98	54-141	
m-Xylene & p-Xylene	5.00	5.15	103	65-135	
o-Xylene	5.00	5.06	101	65-135	
Styrene	5.00	4.63	93	65-135	
Tetrachloroethene	5.00	5.17	103	65-135	
Toluene	5.00	5.35	107	65-135	
trans-1,2-Dichloroethene	5.00	5.27	105	65-135	
Trichloroethene	5.00	5.12	102	65-135	
Vinyl chloride	5.00	4.72	94	40-137	
Xylenes, Total	10.0	10.2	102	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2549.D  
 Lab ID: LCS 280-422211/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.25	105	65-135	
1,1-Dichloroethane	5.00	4.82	96	65-135	
1,1-Dichloroethene	5.00	5.09	102	65-136	
1,2-Dichloroethane	5.00	5.06	101	65-135	
Methyl ethyl ketone (MEK)	20.0	19.1	95	44-177	
Acetone	20.0	17.8	89	39-156	
Benzene	5.00	5.01	100	65-135	
Chloroethane	5.00	5.84	117	46-136	
cis-1,2-Dichloroethene	5.00	5.06	101	65-135	
Ethylbenzene	5.00	4.88	98	65-135	
Methylene Chloride	5.00	5.20	104	54-141	
m-Xylene & p-Xylene	5.00	4.82	96	65-135	
o-Xylene	5.00	4.79	96	65-135	
Styrene	5.00	4.45	89	65-135	
Tetrachloroethene	5.00	4.98	100	65-135	
Toluene	5.00	5.26	105	65-135	
trans-1,2-Dichloroethene	5.00	5.12	102	65-135	
Trichloroethene	5.00	5.26	105	65-135	
Vinyl chloride	5.00	4.85	97	40-137	
Xylenes, Total	10.0	9.61	96	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_3661.D  
 Lab ID: 280-110943-3 MS Client ID: AFDV-121 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	5.70	114	65-135	
1,1-Dichloroethane	5.00	44	48.9	98	65-135	4
1,1-Dichloroethene	5.00	4.1	9.54	109	65-136	
1,2-Dichloroethane	5.00	ND	5.60	112	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	21.2	106	44-177	
Acetone	20.0	5.8 J	28.4	113	39-156	
Benzene	5.00	1.6	7.06	110	65-135	
Chloroethane	5.00	1.8 J	6.00	84	46-136	
cis-1,2-Dichloroethene	5.00	290	276	-210	65-135	E 4
Ethylbenzene	5.00	ND	4.99	100	65-135	
Methylene Chloride	5.00	ND	5.07	101	54-141	
m-Xylene & p-Xylene	5.00	ND	4.75	95	65-135	
o-Xylene	5.00	ND	4.77	95	65-135	
Styrene	5.00	ND	4.26	85	65-135	
Tetrachloroethene	5.00	ND	5.03	101	65-135	
Toluene	5.00	ND	5.45	109	65-135	
trans-1,2-Dichloroethene	5.00	0.59 J	6.07	110	65-135	
Trichloroethene	5.00	ND	5.28	106	65-135	
Vinyl chloride	5.00	310	313	158	40-137	E 4
Xylenes, Total	10.0	ND	9.52	95	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: R2435.D  
 Lab ID: 280-110943-9 MS Client ID: AFDV-138 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	40	41.1	16	65-135	4
1,1-Dichloroethane	5.00	100	98.8	-79	65-135	E 4
1,1-Dichloroethene	5.00	0.34 J	4.85	90	65-136	
1,2-Dichloroethane	5.00	0.58 J	4.70	82	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	19.0	95	44-177	
Acetone	20.0	8.7 J	34.3	128	39-156	
Benzene	5.00	0.53 J	5.11	92	65-135	
Chloroethane	5.00	8.3	12.4	82	46-136	
cis-1,2-Dichloroethene	5.00	140	137	-142	65-135	E 4
Ethylbenzene	5.00	0.18 J	5.24	101	65-135	
Methylene Chloride	5.00	0.35 J	4.31	79	54-141	
m-Xylene & p-Xylene	5.00	ND	5.08	102	65-135	
o-Xylene	5.00	0.87 J	6.22	107	65-135	
Styrene	5.00	ND	4.74	95	65-135	
Tetrachloroethene	5.00	0.88 J	6.24	107	65-135	
Toluene	5.00	ND	4.98	100	65-135	
trans-1,2-Dichloroethene	5.00	0.77 J	5.64	97	65-135	
Trichloroethene	5.00	0.80 J	5.03	85	65-135	
Vinyl chloride	5.00	230	206	-568	40-137	E 4
Xylenes, Total	10.0	0.87 J	11.3	104	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_3929.D  
 Lab ID: 280-111257-C-5 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	5.83	117	65-135	
1,1-Dichloroethane	5.00	ND	5.47	109	65-135	
1,1-Dichloroethene	5.00	ND	5.31	106	65-136	
1,2-Dichloroethane	5.00	ND	6.23	125	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	24.4	122	44-177	
Acetone	20.0	3.7 J	32.7	145	39-156	
Benzene	5.00	ND	5.32	106	65-135	
Chloroethane	5.00	ND	4.89	98	46-136	
cis-1,2-Dichloroethene	5.00	ND	5.32	106	65-135	
Ethylbenzene	5.00	ND	5.14	103	65-135	
Methylene Chloride	5.00	ND	4.99	100	54-141	
m-Xylene & p-Xylene	5.00	ND	4.90	98	65-135	
o-Xylene	5.00	ND	4.92	98	65-135	
Styrene	5.00	ND	4.49	90	65-135	
Tetrachloroethene	5.00	ND	5.14	103	65-135	
Toluene	5.00	ND	5.35	107	65-135	
trans-1,2-Dichloroethene	5.00	ND	5.39	108	65-135	
Trichloroethene	5.00	ND	5.07	101	65-135	
Vinyl chloride	5.00	ND	4.98	100	40-137	
Xylenes, Total	10.0	ND	9.82	98	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2552.D  
 Lab ID: 550-105667-C-1 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	5.25	105	65-135	
1,1-Dichloroethane	5.00	ND	4.85	97	65-135	
1,1-Dichloroethene	5.00	ND	5.07	101	65-136	
1,2-Dichloroethane	5.00	ND	5.05	101	65-135	
Methyl ethyl ketone (MEK)	20.0	2.2 J	22.5	101	44-177	
Acetone	20.0	12	33.8	111	39-156	
Benzene	5.00	ND	4.91	98	65-135	
Chloroethane	5.00	ND	5.93	119	46-136	
cis-1,2-Dichloroethene	5.00	ND	5.06	101	65-135	
Ethylbenzene	5.00	ND	4.84	97	65-135	
Methylene Chloride	5.00	ND	4.84	97	54-141	
m-Xylene & p-Xylene	5.00	ND	4.77	95	65-135	
o-Xylene	5.00	ND	4.67	93	65-135	
Styrene	5.00	ND	4.41	88	65-135	
Tetrachloroethene	5.00	ND	4.86	97	65-135	
Toluene	5.00	ND	5.15	103	65-135	
trans-1,2-Dichloroethene	5.00	ND	5.10	102	65-135	
Trichloroethene	5.00	ND	5.13	103	65-135	
Vinyl chloride	5.00	ND	5.02	100	40-137	
Xylenes, Total	10.0	ND	9.44	94	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_3662.D  
 Lab ID: 280-110943-3 MSD Client ID: AFDV-121 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	6.08	122	7	20	65-135	
1,1-Dichloroethane	5.00	53.0	181	8	21	65-135	4
1,1-Dichloroethene	5.00	10.5	128	10	20	65-136	
1,2-Dichloroethane	5.00	6.02	120	7	20	65-135	
Methyl ethyl ketone (MEK)	20.0	23.6	118	11	32	44-177	
Acetone	20.0	27.4	108	4	23	39-156	
Benzene	5.00	7.17	112	2	20	65-135	
Chloroethane	5.00	6.43	93	7	25	46-136	
cis-1,2-Dichloroethene	5.00	295	166	7	20	65-135	E 4
Ethylbenzene	5.00	5.36	107	7	20	65-135	
Methylene Chloride	5.00	5.39	108	6	26	54-141	
m-Xylene & p-Xylene	5.00	5.18	104	9	20	65-135	
o-Xylene	5.00	5.18	104	8	20	65-135	
Styrene	5.00	4.65	93	9	26	65-135	
Tetrachloroethene	5.00	5.46	109	8	20	65-135	
Toluene	5.00	5.83	117	7	20	65-135	
trans-1,2-Dichloroethene	5.00	6.57	120	8	24	65-135	
Trichloroethene	5.00	5.76	115	9	20	65-135	
Vinyl chloride	5.00	316	219	1	24	40-137	E 4
Xylenes, Total	10.0	10.4	104	8	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: R2436.D  
 Lab ID: 280-110943-9 MSD Client ID: AFDV-138 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	37.8	-50	8	20	65-135	4
1,1-Dichloroethane	5.00	92.6	-202	6	21	65-135	E 4
1,1-Dichloroethene	5.00	4.80	89	1	20	65-136	
1,2-Dichloroethane	5.00	4.98	88	6	20	65-135	
Methyl ethyl ketone (MEK)	20.0	17.4	87	9	32	44-177	
Acetone	20.0	39.0	152	13	23	39-156	
Benzene	5.00	5.01	89	2	20	65-135	
Chloroethane	5.00	11.6	65	7	25	46-136	
cis-1,2-Dichloroethene	5.00	130	-275	5	20	65-135	E 4
Ethylbenzene	5.00	5.05	97	4	20	65-135	
Methylene Chloride	5.00	4.50	83	4	26	54-141	
m-Xylene & p-Xylene	5.00	4.95	99	3	20	65-135	
o-Xylene	5.00	6.10	105	2	20	65-135	
Styrene	5.00	4.80	96	1	26	65-135	
Tetrachloroethene	5.00	5.86	100	6	20	65-135	
Toluene	5.00	4.91	98	1	20	65-135	
trans-1,2-Dichloroethene	5.00	5.48	94	3	24	65-135	
Trichloroethene	5.00	4.92	82	2	20	65-135	
Vinyl chloride	5.00	186	-964	10	24	40-137	E 4
Xylenes, Total	10.0	11.1	102	2	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_3930.D  
 Lab ID: 280-111257-A-5 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	5.79	116	1	20	65-135	
1,1-Dichloroethane	5.00	5.54	111	1	21	65-135	
1,1-Dichloroethene	5.00	5.25	105	1	20	65-136	
1,2-Dichloroethane	5.00	6.17	123	1	20	65-135	
Methyl ethyl ketone (MEK)	20.0	26.2	131	7	32	44-177	
Acetone	20.0	32.4	144	1	23	39-156	
Benzene	5.00	5.41	108	2	20	65-135	
Chloroethane	5.00	5.00	100	2	25	46-136	
cis-1,2-Dichloroethene	5.00	5.37	107	1	20	65-135	
Ethylbenzene	5.00	5.27	105	3	20	65-135	
Methylene Chloride	5.00	5.08	102	2	26	54-141	
m-Xylene & p-Xylene	5.00	5.08	102	4	20	65-135	
o-Xylene	5.00	5.05	101	3	20	65-135	
Styrene	5.00	4.62	92	3	26	65-135	
Tetrachloroethene	5.00	5.22	104	2	20	65-135	
Toluene	5.00	5.36	107	0	20	65-135	
trans-1,2-Dichloroethene	5.00	5.37	107	0	24	65-135	
Trichloroethene	5.00	5.14	103	1	20	65-135	
Vinyl chloride	5.00	4.98	100	0	24	40-137	
Xylenes, Total	10.0	10.1	101	3	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2553.D  
 Lab ID: 550-105667-C-1 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	5.32	106	1	20	65-135	
1,1-Dichloroethane	5.00	4.85	97	0	21	65-135	
1,1-Dichloroethene	5.00	5.15	103	2	20	65-136	
1,2-Dichloroethane	5.00	5.16	103	2	20	65-135	
Methyl ethyl ketone (MEK)	20.0	22.2	100	1	32	44-177	
Acetone	20.0	35.2	118	4	23	39-156	
Benzene	5.00	4.90	98	0	20	65-135	
Chloroethane	5.00	5.79	116	2	25	46-136	
cis-1,2-Dichloroethene	5.00	5.14	103	2	20	65-135	
Ethylbenzene	5.00	4.72	94	3	20	65-135	
Methylene Chloride	5.00	4.92	98	2	26	54-141	
m-Xylene & p-Xylene	5.00	4.70	94	1	20	65-135	
o-Xylene	5.00	4.77	95	2	20	65-135	
Styrene	5.00	4.52	90	3	26	65-135	
Tetrachloroethene	5.00	4.91	98	1	20	65-135	
Toluene	5.00	4.99	100	3	20	65-135	
trans-1,2-Dichloroethene	5.00	4.98	100	2	24	65-135	
Trichloroethene	5.00	5.01	100	2	20	65-135	
Vinyl chloride	5.00	4.87	97	3	24	40-137	
Xylenes, Total	10.0	9.47	95	0	20	65-135	

# Column to be used to flag recovery and RPD values



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_3655.D Lab Sample ID: MB 280-420184/8  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: VMS\_MS1 Date Analyzed: 06/27/2018 08:36  
 GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-420184/4	MS1_3654.D	06/27/2018 08:16
AFDV-149	280-110943-20	MS1_3656.D	06/27/2018 08:56
AFDV-150	280-110943-21	MS1_3657.D	06/27/2018 09:17
AFDV-151	280-110943-22	MS1_3658.D	06/27/2018 09:37
AFDV-121	280-110943-3	MS1_3659.D	06/27/2018 09:58
AFDV-121 DL	280-110943-3 DL	MS1_3660.D	06/27/2018 10:18
AFDV-121 MS	280-110943-3 MS	MS1_3661.D	06/27/2018 10:38
AFDV-121 MSD	280-110943-3 MSD	MS1_3662.D	06/27/2018 10:59
AFDV-104	280-110943-1	MS1_3663.D	06/27/2018 11:19
AFDV-104 DL	280-110943-1 DL	MS1_3664.D	06/27/2018 11:40
AFDV-111	280-110943-2	MS1_3665.D	06/27/2018 12:00
AFDV-111 DL	280-110943-2 DL	MS1_3666.D	06/27/2018 12:39
AFDV-130	280-110943-4	MS1_3667.D	06/27/2018 13:00
AFDV-130 DL	280-110943-4 DL	MS1_3668.D	06/27/2018 13:20
AFDV-144	280-110943-5	MS1_3669.D	06/27/2018 13:41
AFDV-114	280-110943-6	MS1_3670.D	06/27/2018 14:01
AFDV-114 DL	280-110943-6 DL	MS1_3671.D	06/27/2018 14:22
AFDV-140	280-110943-7	MS1_3672.D	06/27/2018 14:42
AFDV-140 DL	280-110943-7 DL	MS1_3673.D	06/27/2018 15:03
AFDV-115	280-110943-8	MS1_3674.D	06/27/2018 15:24
AFDV-115 DL	280-110943-8 DL	MS1_3675.D	06/27/2018 15:44
AFDV-107	280-110943-10	MS1_3676.D	06/27/2018 16:05
AFDV-107 DL	280-110943-10 DL	MS1_3677.D	06/27/2018 16:25
AFDV-109	280-110943-12	MS1_3678.D	06/27/2018 17:12
AFDV-101	280-110943-13	MS1_3679.D	06/27/2018 17:32
AFDV-117	280-110943-14	MS1_3680.D	06/27/2018 17:53
AFDV-113	280-110943-15	MS1_3681.D	06/27/2018 18:13
AFDV-113 DL	280-110943-15 DL	MS1_3682.D	06/27/2018 18:34



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab File ID: R2433.D Lab Sample ID: MB 280-420311/6  
Matrix: Water Heated Purge: (Y/N) N  
Instrument ID: VMS\_R1 Date Analyzed: 06/27/2018 19:46  
GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-420311/4	R2432.D	06/27/2018 19:27
AFDV-138	280-110943-9	R2434.D	06/27/2018 20:06
AFDV-138 MS	280-110943-9 MS	R2435.D	06/27/2018 20:27
AFDV-138 MSD	280-110943-9 MSD	R2436.D	06/27/2018 20:46
AFDV-138 DL	280-110943-9 DL	R2437.D	06/27/2018 21:05



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS1\_3923.D Lab Sample ID: MB 280-420929/8  
Matrix: Water Heated Purge: (Y/N) N  
Instrument ID: VMS\_MS1 Date Analyzed: 07/03/2018 08:35  
GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-420929/4	MS1_3922.D	07/03/2018 08:15
	280-111257-C-5 MS	MS1_3929.D	07/03/2018 10:37
	280-111257-A-5 MSD	MS1_3930.D	07/03/2018 10:58
AFDV-139	280-110943-16	MS1_3945.D	07/03/2018 16:04



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_2550.D Lab Sample ID: MB 280-422211/6  
Matrix: Water Heated Purge: (Y/N) Y  
Instrument ID: VMS\_MS9 Date Analyzed: 07/13/2018 23:29  
GC Column: RTX-624 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-422211/4	MS9_2549.D	07/13/2018 23:08
	550-105667-C-1 MS	MS9_2552.D	07/14/2018 00:12
	550-105667-C-1 MSD	MS9_2553.D	07/14/2018 00:33
AFDV-141	280-110943-17	MS9_2565.D	07/14/2018 04:43
AFDV-141 DL	280-110943-17 DL	MS9_2566.D	07/14/2018 05:04
AFDV-142	280-110943-18	MS9_2567.D	07/14/2018 05:25
AFDV-142 DL	280-110943-18 DL	MS9_2568.D	07/14/2018 05:46
AFDV-105	280-110943-19	MS9_2569.D	07/14/2018 06:06



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_1617.D BFB Injection Date: 05/05/2018  
 Instrument ID: VMS\_MS1 BFB Injection Time: 08:31  
 Analysis Batch No.: 413853

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.3
75	30.0 - 60.0 % of mass 95	49.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.9
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	78.3
175	5.0 - 9.0 % of mass 174	5.3 (6.8) 1
176	95.0 - 101.0 % of mass 174	77.9 (99.6) 1
177	5.0 - 9.0 % of mass 176	6.2 (8.0) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD01 280-413853/18	MS1_1629.D	05/05/2018	13:23
	STD02 280-413853/19	MS1_1630.D	05/05/2018	13:43
	STD05 280-413853/20	MS1_1631.D	05/05/2018	14:04
	ICIS 280-413853/21	MS1_1632.D	05/05/2018	14:24
	STD30 280-413853/22	MS1_1633.D	05/05/2018	14:45
	STD60 280-413853/23	MS1_1634.D	05/05/2018	15:05
	ICV 280-413853/24	MS1_1636.D	05/05/2018	15:46



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_3156.D BFB Injection Date: 06/11/2018  
 Instrument ID: VMS\_MS1 BFB Injection Time: 09:54  
 Analysis Batch No.: 418017

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	18.3
75	30.0 - 60.0 % of mass 95	49.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.0
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	82.0
175	5.0 - 9.0 % of mass 174	5.5 (6.7) 1
176	95.0 - 101.0 % of mass 174	79.1 (96.4) 1
177	5.0 - 9.0 % of mass 176	5.4 (6.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD003 280-418017/12	MS1_3162.D	06/11/2018	12:30
	STD01 280-418017/13	MS1_3163.D	06/11/2018	12:50
	STD02 280-418017/14	MS1_3164.D	06/11/2018	13:11
	STD05 280-418017/15	MS1_3165.D	06/11/2018	13:32
	ICIS 280-418017/16	MS1_3166.D	06/11/2018	13:52
	STD30 280-418017/17	MS1_3167.D	06/11/2018	14:13
	STD60 280-418017/18	MS1_3168.D	06/11/2018	14:33
	ICV 280-418017/19	MS1_3170.D	06/11/2018	15:14



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS1\_3650.D BFB Injection Date: 06/27/2018  
Instrument ID: VMS\_MS1 BFB Injection Time: 06:48  
Analysis Batch No.: 420184

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	24.7
75	30.0 - 60.0 % of mass 95	54.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.3
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	78.0
175	5.0 - 9.0 % of mass 174	7.0 (8.9) 1
176	95.0 - 101.0 % of mass 174	75.4 (96.7) 1
177	5.0 - 9.0 % of mass 176	5.3 (7.0) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-420184/2	MS1_3652.D	06/27/2018	07:35
	CCV 280-420184/3	MS1_3653.D	06/27/2018	07:55
	LCS 280-420184/4	MS1_3654.D	06/27/2018	08:16
	MB 280-420184/8	MS1_3655.D	06/27/2018	08:36
AFDV-149	280-110943-20	MS1_3656.D	06/27/2018	08:56
AFDV-150	280-110943-21	MS1_3657.D	06/27/2018	09:17
AFDV-151	280-110943-22	MS1_3658.D	06/27/2018	09:37
AFDV-121	280-110943-3	MS1_3659.D	06/27/2018	09:58
AFDV-121 DL	280-110943-3 DL	MS1_3660.D	06/27/2018	10:18
AFDV-121 MS	280-110943-3 MS	MS1_3661.D	06/27/2018	10:38
AFDV-121 MSD	280-110943-3 MSD	MS1_3662.D	06/27/2018	10:59
AFDV-104	280-110943-1	MS1_3663.D	06/27/2018	11:19
AFDV-104 DL	280-110943-1 DL	MS1_3664.D	06/27/2018	11:40
AFDV-111	280-110943-2	MS1_3665.D	06/27/2018	12:00
AFDV-111 DL	280-110943-2 DL	MS1_3666.D	06/27/2018	12:39
AFDV-130	280-110943-4	MS1_3667.D	06/27/2018	13:00
AFDV-130 DL	280-110943-4 DL	MS1_3668.D	06/27/2018	13:20
AFDV-144	280-110943-5	MS1_3669.D	06/27/2018	13:41
AFDV-114	280-110943-6	MS1_3670.D	06/27/2018	14:01
AFDV-114 DL	280-110943-6 DL	MS1_3671.D	06/27/2018	14:22
AFDV-140	280-110943-7	MS1_3672.D	06/27/2018	14:42
AFDV-140 DL	280-110943-7 DL	MS1_3673.D	06/27/2018	15:03
AFDV-115	280-110943-8	MS1_3674.D	06/27/2018	15:24
AFDV-115 DL	280-110943-8 DL	MS1_3675.D	06/27/2018	15:44
AFDV-107	280-110943-10	MS1_3676.D	06/27/2018	16:05
AFDV-107 DL	280-110943-10 DL	MS1_3677.D	06/27/2018	16:25
AFDV-109	280-110943-12	MS1_3678.D	06/27/2018	17:12
AFDV-101	280-110943-13	MS1_3679.D	06/27/2018	17:32



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_3650.D BFB Injection Date: 06/27/2018  
 Instrument ID: VMS\_MS1 BFB Injection Time: 06:48  
 Analysis Batch No.: 420184

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	24.7
75	30.0 - 60.0 % of mass 95	54.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.3
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	78.0
175	5.0 - 9.0 % of mass 174	7.0 (8.9) 1
176	95.0 - 101.0 % of mass 174	75.4 (96.7) 1
177	5.0 - 9.0 % of mass 176	5.3 (7.0) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
AFDV-117	280-110943-14	MS1_3680.D	06/27/2018	17:53
AFDV-113	280-110943-15	MS1_3681.D	06/27/2018	18:13
AFDV-113 DL	280-110943-15 DL	MS1_3682.D	06/27/2018	18:34



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_3918.D BFB Injection Date: 07/03/2018  
 Instrument ID: VMS\_MS1 BFB Injection Time: 06:45  
 Analysis Batch No.: 420929

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	23.0
75	30.0 - 60.0 % of mass 95	49.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.4
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	77.1
175	5.0 - 9.0 % of mass 174	5.3 (6.8) 1
176	95.0 - 101.0 % of mass 174	73.4 (95.1) 1
177	5.0 - 9.0 % of mass 176	5.0 (6.8) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-420929/2	MS1_3920.D	07/03/2018	07:35
	CCV 280-420929/3	MS1_3921.D	07/03/2018	07:55
	LCS 280-420929/4	MS1_3922.D	07/03/2018	08:15
	MB 280-420929/8	MS1_3923.D	07/03/2018	08:35
	280-111257-C-5 MS	MS1_3929.D	07/03/2018	10:37
	280-111257-A-5 MSD	MS1_3930.D	07/03/2018	10:58
AFDV-139	280-110943-16	MS1_3945.D	07/03/2018	16:04



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_2545.D BFB Injection Date: 07/13/2018  
Instrument ID: VMS\_MS9 BFB Injection Time: 21:41  
Analysis Batch No.: 422211

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	25.2
75	30.0 - 60.0 % of mass 95	57.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.7
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	96.6
175	5.0 - 9.0 % of mass 174	8.1 (8.4) 1
176	95.0 - 101.0 % of mass 174	94.1 (97.5) 1
177	5.0 - 9.0 % of mass 176	7.4 (7.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-422211/2	MS9_2547.D	07/13/2018	22:22
	CCV 280-422211/3	MS9_2548.D	07/13/2018	22:42
	LCS 280-422211/4	MS9_2549.D	07/13/2018	23:08
	MB 280-422211/6	MS9_2550.D	07/13/2018	23:29
	550-105667-C-1 MS	MS9_2552.D	07/14/2018	00:12
	550-105667-C-1 MSD	MS9_2553.D	07/14/2018	00:33
AFDV-141	280-110943-17	MS9_2565.D	07/14/2018	04:43
AFDV-141 DL	280-110943-17 DL	MS9_2566.D	07/14/2018	05:04
AFDV-142	280-110943-18	MS9_2567.D	07/14/2018	05:25
AFDV-142 DL	280-110943-18 DL	MS9_2568.D	07/14/2018	05:46
AFDV-105	280-110943-19	MS9_2569.D	07/14/2018	06:06



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab File ID: R2068.D BFB Injection Date: 06/20/2018  
Instrument ID: VMS\_R1 BFB Injection Time: 23:30  
Analysis Batch No.: 419367

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	15.4
75	30.0 - 60.0 % of mass 95	45.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.8
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	67.8
175	5.0 - 9.0 % of mass 174	4.2 (6.3) 1
176	95.0 - 101.0 % of mass 174	65.6 (96.7) 1
177	5.0 - 9.0 % of mass 176	4.5 (6.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD60 280-419367/10	R2071.D	06/21/2018	00:33
	STD30 280-419367/11	R2072.D	06/21/2018	00:52
	STD10 280-419367/12	R2073.D	06/21/2018	01:11
	STD5 280-419367/13	R2074.D	06/21/2018	01:30
	STD2 280-419367/14	R2075.D	06/21/2018	01:49
	STD1 280-419367/15	R2076.D	06/21/2018	02:08
	STD03 280-419367/16	R2077.D	06/21/2018	02:28
	ICV 280-419367/17	R2078.D	06/21/2018	02:47
	STD 280-419367/18	R2085.D	06/21/2018	07:34
	STD 280-419367/19	R2086.D	06/21/2018	07:53
	STD 280-419367/20	R2087.D	06/21/2018	08:12
	ICIS 280-419367/21	R2088.D	06/21/2018	08:32
	STD 280-419367/22	R2089.D	06/21/2018	08:51
	STD 280-419367/23	R2090.D	06/21/2018	09:10
	ICV 280-419367/24	R2091.D	06/21/2018	09:29



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: R2429.D BFB Injection Date: 06/27/2018  
 Instrument ID: VMS\_R1 BFB Injection Time: 18:24  
 Analysis Batch No.: 420311

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	15.5
75	30.0 - 60.0 % of mass 95	46.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.2
173	Less than 2.0 % of mass 174	0.6 (0.8) 1
174	50.0 - 120.00 % of mass 95	78.8
175	5.0 - 9.0 % of mass 174	5.5 (7.0) 1
176	95.0 - 101.0 % of mass 174	75.3 (95.6) 1
177	5.0 - 9.0 % of mass 176	5.1 (6.8) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-420311/2	R2430.D	06/27/2018	18:46
	CCV 280-420311/3	R2431.D	06/27/2018	19:05
	LCS 280-420311/4	R2432.D	06/27/2018	19:27
	MB 280-420311/6	R2433.D	06/27/2018	19:46
AFDV-138	280-110943-9	R2434.D	06/27/2018	20:06
AFDV-138 MS	280-110943-9 MS	R2435.D	06/27/2018	20:27
AFDV-138 MSD	280-110943-9 MSD	R2436.D	06/27/2018	20:46
AFDV-138 DL	280-110943-9 DL	R2437.D	06/27/2018	21:05



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-413853/21 Date Analyzed: 05/05/2018 14:24  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_1632.D Heated Purge: (Y/N) N  
 Calibration ID: 32300

	TBA <sub>d</sub> 9		FB		CBN <sub>zd</sub> 5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	166536	5.59	1773409	7.53	369450	9.79	
UPPER LIMIT	333072	6.09	3546818	8.03	738900	10.29	
LOWER LIMIT	83268	5.09	886705	7.03	184725	9.29	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-413853/24		162854	5.58	1787795	7.53	371940	9.79

TBA<sub>d</sub>9 = TBA-<sub>d</sub>9 (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-<sub>d</sub>5

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-413853/21 Date Analyzed: 05/05/2018 14:24  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_1632.D Heated Purge: (Y/N) N  
 Calibration ID: 32300

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	507934	11.60				
UPPER LIMIT	1015868	12.10				
LOWER LIMIT	253967	11.10				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-413853/24		512720 11.60				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-418017/16 Date Analyzed: 06/11/2018 13:52  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_3166.D Heated Purge: (Y/N) N  
 Calibration ID: 32653

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		191674	5.59	2037896	7.53	435895	9.79
UPPER LIMIT		383348	6.09	4075792	8.03	871790	10.29
LOWER LIMIT		95837	5.09	1018948	7.03	217948	9.29
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-418017/19		232776	5.58	2314482	7.53	511976	9.79
CCV 280-420184/2		209806	5.58	1933574	7.53	449082	9.79
CCV 280-420184/3		214138	5.58	2031408	7.53	452997	9.79
LCS 280-420184/4		204194	5.58	2041603	7.53	458714	9.79
MB 280-420184/8		191951	5.59	1991784	7.53	432378	9.79
280-110943-20	AFDV-149	171367	5.59	2040639	7.53	433811	9.79
280-110943-21	AFDV-150	187621	5.58	2002753	7.53	429518	9.79
280-110943-22	AFDV-151	190652	5.58	1945977	7.53	425411	9.79
280-110943-3	AFDV-121	201939	5.58	2006010	7.53	431353	9.79
280-110943-3 DL	AFDV-121 DL	204781	5.59	1976230	7.53	426256	9.79
280-110943-3 MS	AFDV-121 MS	220622	5.59	2044029	7.53	465741	9.79
280-110943-3 MSD	AFDV-121 MSD	232845	5.58	2111390	7.53	474889	9.79
280-110943-1	AFDV-104	230385	5.59	2123759	7.53	470795	9.79
280-110943-1 DL	AFDV-104 DL	204574	5.58	2014839	7.53	437589	9.79
280-110943-2	AFDV-111	200758	5.58	2007081	7.53	440098	9.80
280-110943-2 DL	AFDV-111 DL	219243	5.59	1814409	7.53	399485	9.80
280-110943-4	AFDV-130	226053	5.58	1983954	7.53	432490	9.80
280-110943-4 DL	AFDV-130 DL	230308	5.58	2066142	7.53	451202	9.80
280-110943-5	AFDV-144	238039	5.59	2112345	7.53	475596	9.79
280-110943-6	AFDV-114	236911	5.59	2031046	7.53	456074	9.80
280-110943-6 DL	AFDV-114 DL	243104	5.58	2063008	7.53	459496	9.79
280-110943-7	AFDV-140	242604	5.58	2104959	7.53	468288	9.79
280-110943-7 DL	AFDV-140 DL	247409	5.58	2139675	7.53	471451	9.79
280-110943-8	AFDV-115	246812	5.58	2144028	7.53	488976	9.79
280-110943-8 DL	AFDV-115 DL	240251	5.58	2061741	7.53	459808	9.79
280-110943-10	AFDV-107	254325	5.58	2096186	7.53	473708	9.79
280-110943-10 DL	AFDV-107 DL	250099	5.58	2038150	7.53	453055	9.79
280-110943-12	AFDV-109	279643	5.58	2040414	7.53	457198	9.79

TBAd9 = TBA-d9 (IS)

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-418017/16 Date Analyzed: 06/11/2018 13:52  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_3166.D Heated Purge: (Y/N) N  
 Calibration ID: 32653

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		191674	5.59	2037896	7.53	435895	9.79
UPPER LIMIT		383348	6.09	4075792	8.03	871790	10.29
LOWER LIMIT		95837	5.09	1018948	7.03	217948	9.29
LAB SAMPLE ID	CLIENT SAMPLE ID						
280-110943-13	AFDV-101	248961	5.59	2021478	7.53	447546	9.79
280-110943-14	AFDV-117	252582	5.58	1982969	7.53	444210	9.79
280-110943-15	AFDV-113	240327	5.59	2019984	7.53	441039	9.79
280-110943-15 DL	AFDV-113 DL	231223	5.58	2009516	7.53	446960	9.79
CCV 280-420929/2		193347	5.59	2034206	7.53	444510	9.79
CCV 280-420929/3		199189	5.58	2099574	7.53	440310	9.79
LCS 280-420929/4		201145	5.58	2149930	7.53	455756	9.79
MB 280-420929/8		183510	5.58	2101495	7.53	432602	9.79
280-111257-C-5 MS		170391	5.59	1849777	7.53	403734	9.79
280-111257-A-5 MSD		185910	5.58	1997332	7.53	428048	9.79
280-110943-16	AFDV-139	172651	5.58	1837604	7.53	374245	9.79

TBAd9 = TBA-d9 (IS)

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-418017/16 Date Analyzed: 06/11/2018 13:52  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_3166.D Heated Purge: (Y/N) N  
 Calibration ID: 32653

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		648428	11.60				
UPPER LIMIT		1296856	12.10				
LOWER LIMIT		324214	11.10				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-418017/19		716941	11.62				
CCV 280-420184/2		655153	11.62				
CCV 280-420184/3		622118	11.62				
LCS 280-420184/4		675833	11.60				
MB 280-420184/8		610933	11.62				
280-110943-20	AFDV-149	601161	11.62				
280-110943-21	AFDV-150	598396	11.62				
280-110943-22	AFDV-151	595664	11.62				
280-110943-3	AFDV-121	600040	11.62				
280-110943-3 DL	AFDV-121 DL	605310	11.62				
280-110943-3 MS	AFDV-121 MS	677343	11.62				
280-110943-3 MSD	AFDV-121 MSD	692277	11.62				
280-110943-1	AFDV-104	659804	11.62				
280-110943-1 DL	AFDV-104 DL	616723	11.62				
280-110943-2	AFDV-111	646918	11.62				
280-110943-2 DL	AFDV-111 DL	577885	11.62				
280-110943-4	AFDV-130	644005	11.62				
280-110943-4 DL	AFDV-130 DL	657334	11.62				
280-110943-5	AFDV-144	692561	11.62				
280-110943-6	AFDV-114	688230	11.62				
280-110943-6 DL	AFDV-114 DL	658730	11.62				
280-110943-7	AFDV-140	686475	11.62				
280-110943-7 DL	AFDV-140 DL	683704	11.62				
280-110943-8	AFDV-115	738162	11.62				
280-110943-8 DL	AFDV-115 DL	669846	11.62				
280-110943-10	AFDV-107	668663	11.62				
280-110943-10 DL	AFDV-107 DL	650210	11.62				
280-110943-12	AFDV-109	654755	11.62				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-418017/16 Date Analyzed: 06/11/2018 13:52  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_3166.D Heated Purge: (Y/N) N  
 Calibration ID: 32653

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		648428	11.60				
UPPER LIMIT		1296856	12.10				
LOWER LIMIT		324214	11.10				
LAB SAMPLE ID	CLIENT SAMPLE ID						
280-110943-13	AFDV-101	654338	11.62				
280-110943-14	AFDV-117	643083	11.62				
280-110943-15	AFDV-113	631583	11.62				
280-110943-15 DL	AFDV-113 DL	638207	11.62				
CCV 280-420929/2		632060	11.60				
CCV 280-420929/3		590656	11.62				
LCS 280-420929/4		642200	11.62				
MB 280-420929/8		590808	11.62				
280-111257-C-5 MS		589195	11.62				
280-111257-A-5 MSD		624176	11.62				
280-110943-16	AFDV-139	517687	11.62				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-421403/27 Date Analyzed: 07/08/2018 17:51  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_2372.D Heated Purge: (Y/N) Y  
 Calibration ID: 32952

	TBA <sub>d</sub> 9		FB		CBN <sub>Zd</sub> 5	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	131014	5.51	1030917	7.30	258192	9.63
UPPER LIMIT	262028	6.01	2061834	7.80	516384	10.13
LOWER LIMIT	65507	5.01	515459	6.80	129096	9.13
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-421403/30		122261	5.52	952140	7.30	247006 9.63
CCV 280-422211/2		101644	5.53	908082	7.30	250812 9.63
CCV 280-422211/3		132462	5.53	953809	7.30	262158 9.63
LCS 280-422211/4		117071	5.52	925432	7.30	260490 9.63
MB 280-422211/6		132098	5.51	996587	7.30	253872 9.63
550-105667-C-1 MS		112618	5.52	876758	7.30	250437 9.63
550-105667-C-1 MSD		129862	5.52	906200	7.30	243740 9.63
280-110943-17	AFDV-141	104381	5.52	796510	7.30	226178 9.63
280-110943-17 DL	AFDV-141 DL	93585	5.51	849738	7.30	228078 9.63
280-110943-18	AFDV-142	105406	5.52	878871	7.30	236877 9.63
280-110943-18 DL	AFDV-142 DL	94526	5.52	793907	7.30	218021 9.63
280-110943-19	AFDV-105	97992	5.53	867678	7.30	229332 9.63

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-421403/27 Date Analyzed: 07/08/2018 17:51  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_2372.D Heated Purge: (Y/N) Y  
 Calibration ID: 32952

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		395541	11.77				
UPPER LIMIT		791082	12.27				
LOWER LIMIT		197771	11.27				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-421403/30		380301	11.77				
CCV 280-422211/2		394581	11.77				
CCV 280-422211/3		410520	11.77				
LCS 280-422211/4		419738	11.77				
MB 280-422211/6		376429	11.77				
550-105667-C-1 MS		375151	11.77				
550-105667-C-1 MSD		380845	11.77				
280-110943-17	AFDV-141	338926	11.77				
280-110943-17 DL	AFDV-141 DL	339647	11.77				
280-110943-18	AFDV-142	352104	11.77				
280-110943-18 DL	AFDV-142 DL	327506	11.77				
280-110943-19	AFDV-105	339326	11.77				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419367/21 Date Analyzed: 06/21/2018 08:32  
 Instrument ID: VMS\_R1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): R2088.D Heated Purge: (Y/N) N  
 Calibration ID: 32770

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	91840	5.20	1375663	7.13	295551	9.42	
UPPER LIMIT	183680	5.70	2751326	7.63	591102	9.92	
LOWER LIMIT	45920	4.70	687832	6.63	147776	8.92	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419367/24		98983	5.20	1493806	7.13	329974	9.42
CCV 280-420311/2		143603	5.21	1854220	7.13	383339	9.43
CCV 280-420311/3		145337	5.20	1925954	7.13	387480	9.42
LCS 280-420311/4		139683	5.20	1888203	7.13	383101	9.42
MB 280-420311/6		134129	5.20	1674603	7.13	318664	9.42
280-110943-9	AFDV-138	77808	5.20	1598061	7.13	318636	9.42
280-110943-9 MS	AFDV-138 MS	110584	5.20	1795066	7.13	352539	9.42
280-110943-9 MSD	AFDV-138 MSD	145617	5.20	1928711	7.13	385824	9.42
280-110943-9 DL	AFDV-138 DL	133601	5.20	1797680	7.13	361596	9.42

TBA<sub>d</sub>9 = TBA-d9 (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419367/21 Date Analyzed: 06/21/2018 08:32  
 Instrument ID: VMS\_R1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): R2088.D Heated Purge: (Y/N) N  
 Calibration ID: 32770

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		368467	11.19				
UPPER LIMIT		736934	11.69				
LOWER LIMIT		184234	10.69				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419367/24		402419	11.19				
CCV 280-420311/2		583154	11.19				
CCV 280-420311/3		461664	11.19				
LCS 280-420311/4		553255	11.19				
MB 280-420311/6		427098	11.19				
280-110943-9	AFDV-138	360668	11.19				
280-110943-9 MS	AFDV-138 MS	510421	11.19				
280-110943-9 MSD	AFDV-138 MSD	569640	11.19				
280-110943-9 DL	AFDV-138 DL	445361	11.19				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-104</u>	Lab Sample ID: <u>280-110943-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3663.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 11:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 11:19</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	28		1.0	0.16
75-34-3	1,1-Dichloroethane	11		1.0	0.22
75-35-4	1,1-Dichloroethene	0.77	J	1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	8.1	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	27		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	180	E	1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	1.0		1.0	0.15
79-01-6	Trichloroethene	20		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	101		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-104 DL Lab Sample ID: 280-110943-1 DL  
 Matrix: Water Lab File ID: MS1\_3664.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 11:30  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 11:40  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 10  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
127-18-4	Tetrachloroethene	210		10	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-111</u>	Lab Sample ID: <u>280-110943-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3665.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 11:20</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 12:00</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	8100		200	32
75-34-3	1,1-Dichloroethane	4200		200	44
75-35-4	1,1-Dichloroethene	630		200	46
107-06-2	1,2-Dichloroethane	ND		200	26
78-93-3	Methyl ethyl ketone (MEK)	ND		1200	400
67-64-1	Acetone	ND		2000	380
71-43-2	Benzene	ND		200	32
75-00-3	Chloroethane	ND		400	82
156-59-2	<i>cis</i> -1,2-Dichloroethene	62000	E	200	30
100-41-4	Ethylbenzene	1700		200	32
75-09-2	Methylene Chloride	340	J	400	64
179601-23-1	m-Xylene & p-Xylene	2800		400	68
95-47-6	o-Xylene	1300		200	38
100-42-5	Styrene	ND		200	34
127-18-4	Tetrachloroethene	45	J	200	40
108-88-3	Toluene	4400		200	34
156-60-5	<i>trans</i> -1,2-Dichloroethene	150	J	200	30
79-01-6	Trichloroethene	ND		200	32
75-01-4	Vinyl chloride	2600		200	20
1330-20-7	Xylenes, Total	4100		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		70-127
460-00-4	4-Bromofluorobenzene (Surr)	97		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	100		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-111 DL Lab Sample ID: 280-110943-2 DL  
Matrix: Water Lab File ID: MS1\_3666.D  
Analysis Method: 8260B Date Collected: 06/13/2018 11:20  
Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 12:39  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 2000  
Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	80000		2000	300

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	101		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-121</u>	Lab Sample ID: <u>280-110943-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3659.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 10:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 09:58</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	44		1.0	0.22
75-35-4	1,1-Dichloroethene	4.1		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	5.8	J	10	1.9
71-43-2	Benzene	1.6		1.0	0.16
75-00-3	Chloroethane	1.8	J	2.0	0.41
156-59-2	<i>cis</i> -1,2-Dichloroethene	290	E	1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	<i>trans</i> -1,2-Dichloroethene	0.59	J	1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	<i>Vinyl chloride</i>	310	E	1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	104		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-121 DL Lab Sample ID: 280-110943-3 DL  
 Matrix: Water Lab File ID: MS1\_3660.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 10:05  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 10:18  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 10  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	340		10	1.5
75-01-4	Vinyl chloride	400		10	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-130</u>	Lab Sample ID: <u>280-110943-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3667.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 10:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 13:00</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	2.8	J	10	1.9
71-43-2	Benzene	7.8		1.0	0.16
75-00-3	Chloroethane	200	E	2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	7.4		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	29		2.0	0.34
95-47-6	o-Xylene	7.6		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	0.97	J	1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	37		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		70-127
460-00-4	4-Bromofluorobenzene (Surr)	102		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-130 DL Lab Sample ID: 280-110943-4 DL  
 Matrix: Water Lab File ID: MS1\_3668.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 10:00  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 13:20  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 4  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-00-3	Chloroethane	200		8.0	1.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-144</u>	Lab Sample ID: <u>280-110943-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3669.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 12:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 13:41</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	7.4	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	0.61	J	1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	0.33	J	1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		70-127
460-00-4	4-Bromofluorobenzene (Surr)	96		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-114</u>	Lab Sample ID: <u>280-110943-6</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3670.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:50</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 14:01</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>10</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	89		10	1.6
75-34-3	1,1-Dichloroethane	140		10	2.2
75-35-4	1,1-Dichloroethene	ND		10	2.3
107-06-2	1,2-Dichloroethane	ND		10	1.3
78-93-3	Methyl ethyl ketone (MEK)	ND		60	20
67-64-1	Acetone	ND		100	19
71-43-2	Benzene	28		10	1.6
75-00-3	Chloroethane	220		20	4.1
156-59-2	cis-1,2-Dichloroethene	240		10	1.5
100-41-4	Ethylbenzene	320		10	1.6
75-09-2	Methylene Chloride	6.2	J	20	3.2
179601-23-1	m-Xylene & p-Xylene	360		20	3.4
95-47-6	o-Xylene	180		10	1.9
100-42-5	Styrene	ND		10	1.7
127-18-4	Tetrachloroethene	ND		10	2.0
108-88-3	Toluene	1100	E	10	1.7
156-60-5	trans-1,2-Dichloroethene	3.0	J	10	1.5
79-01-6	Trichloroethene	ND		10	1.6
75-01-4	Vinyl chloride	470		10	1.0
1330-20-7	Xylenes, Total	540		20	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		70-127
460-00-4	4-Bromofluorobenzene (Surr)	97		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-114 DL Lab Sample ID: 280-110943-6 DL  
 Matrix: Water Lab File ID: MS1\_3671.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 14:50  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 14:22  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 100  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
108-88-3	Toluene	3400		100	17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	100		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-140</u>	Lab Sample ID: <u>280-110943-7</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3672.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:10</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 14:42</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>10</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	59		10	1.6
75-34-3	1,1-Dichloroethane	54		10	2.2
75-35-4	1,1-Dichloroethene	20		10	2.3
107-06-2	1,2-Dichloroethane	ND		10	1.3
78-93-3	Methyl ethyl ketone (MEK)	ND		60	20
67-64-1	Acetone	ND		100	19
71-43-2	Benzene	ND		10	1.6
75-00-3	Chloroethane	ND		20	4.1
156-59-2	<i>cis</i> -1,2-Dichloroethene	3200	E	10	1.5
100-41-4	Ethylbenzene	150		10	1.6
75-09-2	Methylene Chloride	ND		20	3.2
179601-23-1	m-Xylene & p-Xylene	7.9	J	20	3.4
95-47-6	o-Xylene	8.2	J	10	1.9
100-42-5	Styrene	ND		10	1.7
127-18-4	Tetrachloroethene	3.0	J	10	2.0
108-88-3	Toluene	14		10	1.7
156-60-5	<i>trans</i> -1,2-Dichloroethene	11		10	1.5
79-01-6	Trichloroethene	8.0	J	10	1.6
75-01-4	Vinyl chloride	290		10	1.0
1330-20-7	Xylenes, Total	16	J	20	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-140 DL Lab Sample ID: 280-110943-7 DL  
 Matrix: Water Lab File ID: MS1\_3673.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 14:10  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 15:03  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 100  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	4200		100	15

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-115</u>	Lab Sample ID: <u>280-110943-8</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3674.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:55</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 15:24</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>10</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	88		10	1.6
75-34-3	1,1-Dichloroethane	140		10	2.2
75-35-4	1,1-Dichloroethene	ND		10	2.3
107-06-2	1,2-Dichloroethane	ND		10	1.3
78-93-3	Methyl ethyl ketone (MEK)	ND		60	20
67-64-1	Acetone	ND		100	19
71-43-2	Benzene	30		10	1.6
75-00-3	Chloroethane	250		20	4.1
156-59-2	cis-1,2-Dichloroethene	290		10	1.5
100-41-4	Ethylbenzene	330		10	1.6
75-09-2	Methylene Chloride	6.3	J	20	3.2
179601-23-1	m-Xylene & p-Xylene	400		20	3.4
95-47-6	o-Xylene	190		10	1.9
100-42-5	Styrene	ND		10	1.7
127-18-4	Tetrachloroethene	ND		10	2.0
108-88-3	Toluene	1200	E	10	1.7
156-60-5	trans-1,2-Dichloroethene	3.2	J	10	1.5
79-01-6	Trichloroethene	ND		10	1.6
75-01-4	Vinyl chloride	550		10	1.0
1330-20-7	Xylenes, Total	590		20	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	97		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-115 DL Lab Sample ID: 280-110943-8 DL  
 Matrix: Water Lab File ID: MS1\_3675.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 14:55  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 15:44  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 100  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
108-88-3	Toluene	3900		100	17

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-138</u>	Lab Sample ID: <u>280-110943-9</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2434.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 20:06</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420311</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	40		1.0	0.16
75-34-3	1,1-Dichloroethane	100	E	1.0	0.22
75-35-4	1,1-Dichloroethene	0.34	J	1.0	0.23
107-06-2	1,2-Dichloroethane	0.58	J	1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	8.7	J	10	1.9
71-43-2	Benzene	0.53	J	1.0	0.16
75-00-3	Chloroethane	8.3		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	140	E	1.0	0.15
100-41-4	Ethylbenzene	0.18	J	1.0	0.16
75-09-2	Methylene Chloride	0.35	J B	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	0.87	J	1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	0.88	J	1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	0.77	J	1.0	0.15
79-01-6	Trichloroethene	0.80	J	1.0	0.16
75-01-4	Vinyl chloride	230	E	1.0	0.10
1330-20-7	Xylenes, Total	0.87	J	2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	85		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	90		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-138 DL Lab Sample ID: 280-110943-9 DL  
 Matrix: Water Lab File ID: R2437.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 14:30  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 21:05  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 4  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420311 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	100		4.0	0.88
156-59-2	cis-1,2-Dichloroethene	140		4.0	0.60
75-01-4	Vinyl chloride	230		4.0	0.40

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	90		78-120
1868-53-7	Dibromofluoromethane (Surr)	93		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-107</u>	Lab Sample ID: <u>280-110943-10</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3676.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 16:09</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 16:05</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>10</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	2.6	J	10	1.6
75-34-3	1,1-Dichloroethane	2.5	J	10	2.2
75-35-4	1,1-Dichloroethene	ND		10	2.3
107-06-2	1,2-Dichloroethane	ND		10	1.3
78-93-3	Methyl ethyl ketone (MEK)	ND		60	20
67-64-1	Acetone	ND		100	19
71-43-2	Benzene	ND		10	1.6
75-00-3	Chloroethane	ND		20	4.1
156-59-2	<i>cis</i> -1,2-Dichloroethene	1000	E	10	1.5
100-41-4	Ethylbenzene	ND		10	1.6
75-09-2	Methylene Chloride	ND		20	3.2
179601-23-1	m-Xylene & p-Xylene	ND		20	3.4
95-47-6	o-Xylene	ND		10	1.9
100-42-5	Styrene	ND		10	1.7
127-18-4	Tetrachloroethene	2600	E	10	2.0
108-88-3	Toluene	ND		10	1.7
156-60-5	trans-1,2-Dichloroethene	4.0	J	10	1.5
79-01-6	Trichloroethene	180		10	1.6
75-01-4	Vinyl chloride	39		10	1.0
1330-20-7	Xylenes, Total	ND		20	1.9

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	100		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-107 DL Lab Sample ID: 280-110943-10 DL  
 Matrix: Water Lab File ID: MS1\_3677.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 16:09  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 16:25  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 100  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	1000		100	15
127-18-4	Tetrachloroethene	2600		100	20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-109</u>	Lab Sample ID: <u>280-110943-12</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3678.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 10:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 17:12</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	0.17	J	1.0	0.16
75-34-3	1,1-Dichloroethane	0.22	J	1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	5.0	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-101</u>	Lab Sample ID: <u>280-110943-13</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3679.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 10:15</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 17:32</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	6.0	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	100		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-117</u>	Lab Sample ID: <u>280-110943-14</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3680.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 11:40</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 17:53</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	0.45	J	1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	5.7	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	1.8		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	0.26	J	1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	0.32	J	1.0	0.16
75-01-4	Vinyl chloride	0.21	J	1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	101		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-113</u>	Lab Sample ID: <u>280-110943-15</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3681.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 15:45</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 18:13</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>500</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	2400		500	80
75-34-3	1,1-Dichloroethane	1000		500	110
75-35-4	1,1-Dichloroethene	550		500	120
107-06-2	1,2-Dichloroethane	ND		500	65
78-93-3	Methyl ethyl ketone (MEK)	ND		3000	1000
67-64-1	Acetone	ND		5000	950
71-43-2	Benzene	ND		500	80
75-00-3	Chloroethane	ND		1000	210
156-59-2	<i>cis</i> -1,2-Dichloroethene	130000	E	500	75
100-41-4	Ethylbenzene	220	J	500	80
75-09-2	Methylene Chloride	230	J	1000	160
179601-23-1	m-Xylene & p-Xylene	370	J	1000	170
95-47-6	o-Xylene	260	J	500	95
100-42-5	Styrene	ND		500	85
127-18-4	Tetrachloroethene	1300		500	100
108-88-3	Toluene	760		500	85
156-60-5	<i>trans</i> -1,2-Dichloroethene	300	J	500	75
79-01-6	Trichloroethene	1500		500	80
75-01-4	Vinyl chloride	4700		500	50
1330-20-7	Xylenes, Total	630	J	1000	95

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	100		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-113 DL Lab Sample ID: 280-110943-15 DL  
 Matrix: Water Lab File ID: MS1\_3682.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 15:45  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 18:34  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 5000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	150000		5000	750

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	100		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-139</u>	Lab Sample ID: <u>280-110943-16</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3945.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:20</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/03/2018 16:04</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420929</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND	H	1.0	0.16
75-34-3	1,1-Dichloroethane	14	H	1.0	0.22
75-35-4	1,1-Dichloroethene	ND	H	1.0	0.23
107-06-2	1,2-Dichloroethane	1.6	H	1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND	H	6.0	2.0
67-64-1	Acetone	6.8	J H	10	1.9
71-43-2	Benzene	2.2	H	1.0	0.16
75-00-3	Chloroethane	13	H	2.0	0.41
156-59-2	cis-1,2-Dichloroethene	12	H	1.0	0.15
100-41-4	Ethylbenzene	ND	H	1.0	0.16
75-09-2	Methylene Chloride	ND	H	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND	H	2.0	0.34
95-47-6	o-Xylene	ND	H	1.0	0.19
100-42-5	Styrene	ND	H	1.0	0.17
127-18-4	Tetrachloroethene	ND	H	1.0	0.20
108-88-3	Toluene	ND	H	1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND	H	1.0	0.15
79-01-6	Trichloroethene	ND	H	1.0	0.16
75-01-4	Vinyl chloride	21	H	1.0	0.10
1330-20-7	Xylenes, Total	ND	H	2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		70-127
460-00-4	4-Bromofluorobenzene (Surr)	113		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	107		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-141</u>	Lab Sample ID: <u>280-110943-17</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2565.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 15:40</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/14/2018 04:43</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>400</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422211</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	27000	H E	400	64
75-34-3	1,1-Dichloroethane	10000	H	400	88
75-35-4	1,1-Dichloroethene	1400	H	400	92
107-06-2	1,2-Dichloroethane	ND	H	400	52
78-93-3	Methyl ethyl ketone (MEK)	ND	H	2400	800
67-64-1	Acetone	2200	J H	4000	760
71-43-2	Benzene	ND	H	400	64
75-00-3	Chloroethane	ND	H	800	160
156-59-2	cis-1,2-Dichloroethene	76000	H E	400	60
100-41-4	Ethylbenzene	2100	H	400	64
75-09-2	Methylene Chloride	120000	H E	800	130
179601-23-1	m-Xylene & p-Xylene	3300	H	800	140
95-47-6	o-Xylene	1300	H	400	76
100-42-5	Styrene	ND	H	400	68
127-18-4	Tetrachloroethene	450	H	400	80
108-88-3	Toluene	23000	H	400	68
156-60-5	trans-1,2-Dichloroethene	93	J H	400	60
79-01-6	Trichloroethene	1000	H	400	64
75-01-4	Vinyl chloride	23000	H	400	40
1330-20-7	Xylenes, Total	4600	H	800	76

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	105		70-127
460-00-4	4-Bromofluorobenzene (Surr)	90		78-120
1868-53-7	Dibromofluoromethane (Surr)	108		77-120
2037-26-5	Toluene-d8 (Surr)	88		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-141 DL Lab Sample ID: 280-110943-17 DL  
 Matrix: Water Lab File ID: MS9\_2566.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 15:40  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/14/2018 05:04  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 4000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 422211 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	30000	H	4000	640
156-59-2	cis-1,2-Dichloroethene	81000	H	4000	600
75-09-2	Methylene Chloride	130000	H	8000	1300

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-142</u>	Lab Sample ID: <u>280-110943-18</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2567.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 15:45</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/14/2018 05:25</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>400</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422211</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	24000	H E	400	64
75-34-3	1,1-Dichloroethane	9100	H	400	88
75-35-4	1,1-Dichloroethene	1200	H	400	92
107-06-2	1,2-Dichloroethane	ND	H	400	52
78-93-3	Methyl ethyl ketone (MEK)	ND	H	2400	800
67-64-1	Acetone	1400	J H	4000	760
71-43-2	Benzene	ND	H	400	64
75-00-3	Chloroethane	ND	H	800	160
156-59-2	cis-1,2-Dichloroethene	67000	H E	400	60
100-41-4	Ethylbenzene	2100	H	400	64
75-09-2	Methylene Chloride	100000	H E	800	130
179601-23-1	m-Xylene & p-Xylene	3500	H	800	140
95-47-6	o-Xylene	1300	H	400	76
100-42-5	Styrene	ND	H	400	68
127-18-4	Tetrachloroethene	470	H	400	80
108-88-3	Toluene	23000	H	400	68
156-60-5	trans-1,2-Dichloroethene	66	J H	400	60
79-01-6	Trichloroethene	980	H	400	64
75-01-4	Vinyl chloride	21000	H	400	40
1330-20-7	Xylenes, Total	4800	H	800	76

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		70-127
460-00-4	4-Bromofluorobenzene (Surr)	97		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	92		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-142 DL Lab Sample ID: 280-110943-18 DL  
 Matrix: Water Lab File ID: MS9\_2568.D  
 Analysis Method: 8260B Date Collected: 06/13/2018 15:45  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/14/2018 05:46  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 4000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 422211 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	27000	H	4000	640
156-59-2	cis-1,2-Dichloroethene	82000	H	4000	600
75-09-2	Methylene Chloride	130000	H	8000	1300

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	91		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	90		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-105</u>	Lab Sample ID: <u>280-110943-19</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2569.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:38</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/14/2018 06:06</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422211</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	12	H	1.0	0.16
75-34-3	1,1-Dichloroethane	0.42	J H	1.0	0.22
75-35-4	1,1-Dichloroethene	ND	H	1.0	0.23
107-06-2	1,2-Dichloroethane	ND	H	1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND	H	6.0	2.0
67-64-1	Acetone	ND	H	10	1.9
71-43-2	Benzene	ND	H	1.0	0.16
75-00-3	Chloroethane	ND	H	2.0	0.41
156-59-2	cis-1,2-Dichloroethene	0.72	J H	1.0	0.15
100-41-4	Ethylbenzene	ND	H	1.0	0.16
75-09-2	Methylene Chloride	ND	H	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND	H	2.0	0.34
95-47-6	o-Xylene	ND	H	1.0	0.19
100-42-5	Styrene	ND	H	1.0	0.17
127-18-4	Tetrachloroethene	30	H	1.0	0.20
108-88-3	Toluene	ND	H	1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND	H	1.0	0.15
79-01-6	Trichloroethene	12	H	1.0	0.16
75-01-4	Vinyl chloride	ND	H	1.0	0.10
1330-20-7	Xylenes, Total	ND	H	2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	91		77-120
2037-26-5	Toluene-d8 (Surr)	92		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-149</u>	Lab Sample ID: <u>280-110943-20</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3656.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 11:59</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 08:56</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	3.7	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	92		77-120
2037-26-5	Toluene-d8 (Surr)	104		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-150 Lab Sample ID: 280-110943-21

Matrix: Water Lab File ID: MS1\_3657.D

Analysis Method: 8260B Date Collected: 06/13/2018 12:00

Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 09:17

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	3.9	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-151</u>	Lab Sample ID: <u>280-110943-22</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3658.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 16:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 09:37</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	2.4	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.34	J	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	104		80-125



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 413853

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/05/2018 13:23 Calibration End Date: 05/05/2018 15:05 Calibration ID: 32300

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-413853/18	MS1_1629.D
Level 2	STD02 280-413853/19	MS1_1630.D
Level 3	STD05 280-413853/20	MS1_1631.D
Level 4	ICIS 280-413853/21	MS1_1632.D
Level 5	STD30 280-413853/22	MS1_1633.D
Level 6	STD60 280-413853/23	MS1_1634.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethanol	+++++ 0.2069	0.1909	0.2058	0.2002	0.1821	Ave		0.1972				5.3		15.0			
Propene oxide	0.0177 0.0152	0.0187	0.0192	0.0196	0.0172	Ave		0.0179				9.1		15.0			
2-Propanol	1.9491 1.0892	1.4494	1.1417	1.0731	0.9694	Lin2	9.4998	0.9857							0.9960		0.9900
Acetonitrile	0.0126 0.0102	0.0114	0.0106	0.0108	0.0100	Ave		0.0109				8.8		15.0			
Di-isopropyl ether (DIPE)	0.1546 0.1755	0.1771	0.1725	0.1745	0.1675	Ave		0.1703				4.9		15.0			
Chloroprene	0.4000 0.4051	0.4185	0.4289	0.4302	0.3927	Ave		0.4125				3.8		15.0			
Tert-butyl ethyl ether	0.4220 0.4859	0.4465	0.4584	0.4735	0.4654	Ave		0.4586				4.9		15.0			
Ethyl acetate	0.0667 0.0595	0.0653	0.0632	0.0637	0.0591	Ave		0.0629				4.9		15.0			
Propionitrile	0.0093 0.0105	0.0101	0.0104	0.0106	0.0102	Ave		0.0102				4.4		15.0			
Methacrylonitrile	0.0510 0.0516	0.0535	0.0559	0.0570	0.0526	Ave		0.0536				4.4		15.0			
Tert-amyl methyl ether	0.2846 0.3588	0.3032	0.3207	0.3371	0.3346	Ave		0.3232				8.2		15.0			
n-Butanol	0.9826 0.4825	0.6160	0.4648	0.4414	0.4150	Lin1	9.9710	0.4441							0.9900		0.9900
Methyl methacrylate	0.0167 0.0251	0.0201	0.0215	0.0237	0.0239	Ave		0.0218				14.1		15.0			
2-Nitropropane	0.0117 0.0146	0.0117	0.0131	0.0127	0.0143	Ave		0.0130				9.6		15.0			
Tetrahydrothiophene	0.0892 0.1094	0.0912	0.1033	0.1076	0.1046	Ave		0.1009				8.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 413853  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 05/05/2018 13:23 Calibration End Date: 05/05/2018 15:05 Calibration ID: 32300

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
cis-1,4-Dichloro-2-butene	0.1043 0.1224	0.1104	0.1140	0.1203	0.1179	Ave		0.1149				5.9		15.0			
1,2,3-Trimethylbenzene	2.9152 3.0846	3.2035	3.1153	3.1759	2.9598	Ave		3.0757				3.8		15.0			
1,3,5-Trichlorobenzene	1.2695 1.3835	1.3747	1.3199	1.3497	1.2688	Ave		1.3277				3.8		15.0			
Dibromofluoromethane (Surr)	0.1949 0.2243	0.2147	0.2146	0.2197	0.2134	Ave		0.2136				4.7		15.0			
1,2-Dichloroethane-d4 (Surr)	0.1729 0.1849	0.1839	0.1907	0.1931	0.1819	Ave		0.1846				3.9		15.0			
Toluene-d8 (Surr)	4.0995 4.3412	4.4654	4.4576	4.5239	4.2176	Ave		4.3509				3.8		15.0			
4-Bromofluorobenzene (Surr)	0.9461 1.0618	1.0355	1.0489	1.0547	1.0070	Ave		1.0257				4.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 413853

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/05/2018 13:23 Calibration End Date: 05/05/2018 15:05 Calibration ID: 32300

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-413853/18	MS1_1629.D
Level 2	STD02 280-413853/19	MS1_1630.D
Level 3	STD05 280-413853/20	MS1_1631.D
Level 4	ICIS 280-413853/21	MS1_1632.D
Level 5	STD30 280-413853/22	MS1_1633.D
Level 6	STD60 280-413853/23	MS1_1634.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethanol	TBAd 9	Ave	+++++ 500082	14936	41462	80019	228528	+++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	264717 13547133	550657	1376006	2777234	7433538	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Lin2	12598 438820	18897	38333	71484	202785	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	18877 906912	33636	76275	153145	432881	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	23136 1567215	52206	123589	247505	725509	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	59856 3617023	123364	307234	610295	1701224	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	63155 4338719	131631	328349	671796	2016114	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	19959 1061946	38481	90479	180626	511757	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	13973 936041	29752	74547	150172	442056	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	76354 4607818	157641	400181	809102	2280559	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	42584 3204105	89397	229725	478252	1449600	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Lin1	15878 485994	20077	39016	73513	217019	25.0 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	5011 448419	11856	30758	67122	207402	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Ave	3509 261214	6882	18735	35956	124032	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	5610 406798	11177	31042	63582	190671	2.00 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	8975 631366	18480	46416	97765	294426	2.00 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 413853

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/05/2018 13:23 Calibration End Date: 05/05/2018 15:05 Calibration ID: 32300

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3-Trimethylbenzene	DCBd 4	Ave	125477 7957862	268100	634088	1290523	3696055	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	54643 3569373	115047	268650	548453	1584369	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	29167 2002844	63285	153761	311728	924277	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	25877 1650858	54216	136633	273925	787972	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	128970 8070747	273698	669949	1337097	3842258	1.00 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	40723 2739227	86663	213488	428582	1257552	1.00 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



## Calibration

/ Ethanol

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

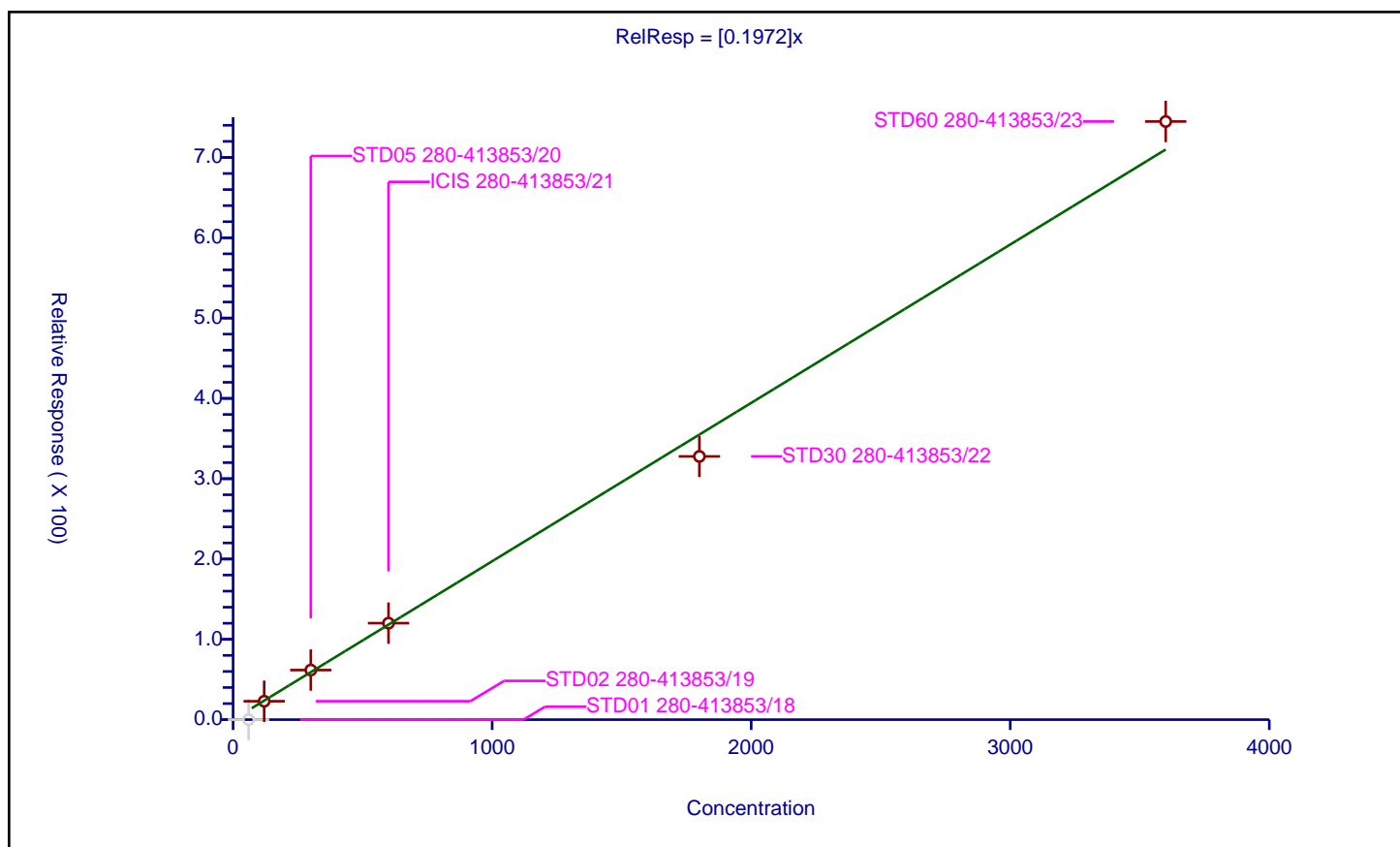
## Curve Coefficients

Intercept: 0  
Slope: 0.1972

## Error Coefficients

Standard Error: 278000  
Relative Standard Error: 5.3  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	60.0	0.0	250.0	161587.0	0.0	N
2	STD02 280-413853/19	120.0	22.91163	250.0	162974.0	0.19093	Y
3	STD05 280-413853/20	300.0	61.743507	250.0	167880.0	0.205812	Y
4	ICIS 280-413853/21	600.0	120.122676	250.0	166536.0	0.200204	Y
5	STD30 280-413853/22	1800.0	327.747724	250.0	174317.0	0.182082	Y
6	STD60 280-413853/23	3600.0	744.754807	250.0	167868.0	0.206876	Y





## Calibration

/ Propene oxide

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

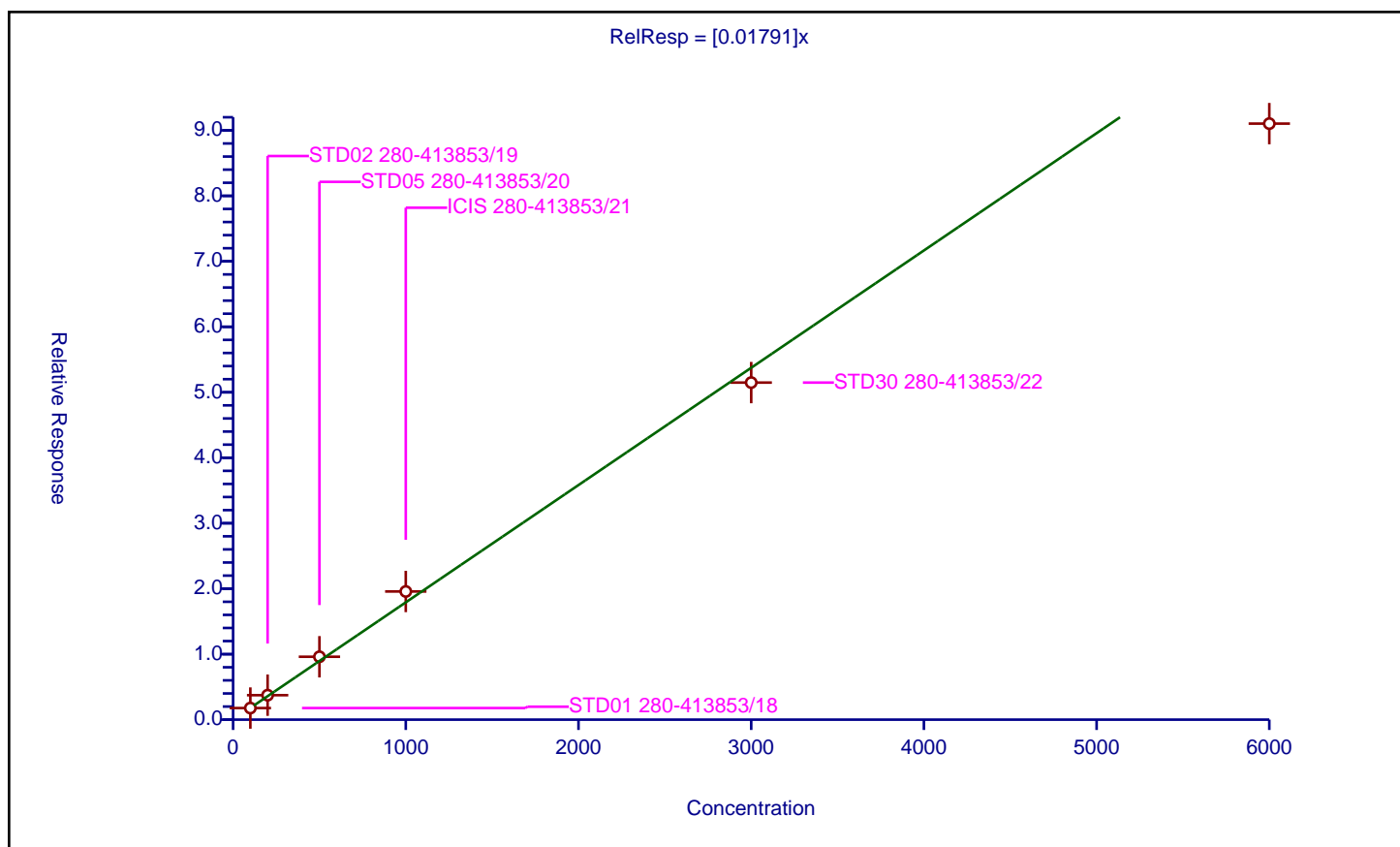
### Curve Coefficients

Intercept: 0  
 Slope: 0.01791

### Error Coefficients

Standard Error: 7050000  
 Relative Standard Error: 9.1  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	100.0	1.768999	12.5	1870528.0	0.01769	Y
2	STD02 280-413853/19	200.0	3.735653	12.5	1842573.0	0.018678	Y
3	STD05 280-413853/20	500.0	9.604189	12.5	1790893.0	0.019208	Y
4	ICIS 280-413853/21	1000.0	19.575532	12.5	1773409.0	0.019576	Y
5	STD30 280-413853/22	3000.0	51.479736	12.5	1804967.0	0.01716	Y
6	STD60 280-413853/23	6000.0	91.029298	12.5	1860271.0	0.015172	Y





## Calibration

/ Isopropyl alcohol

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

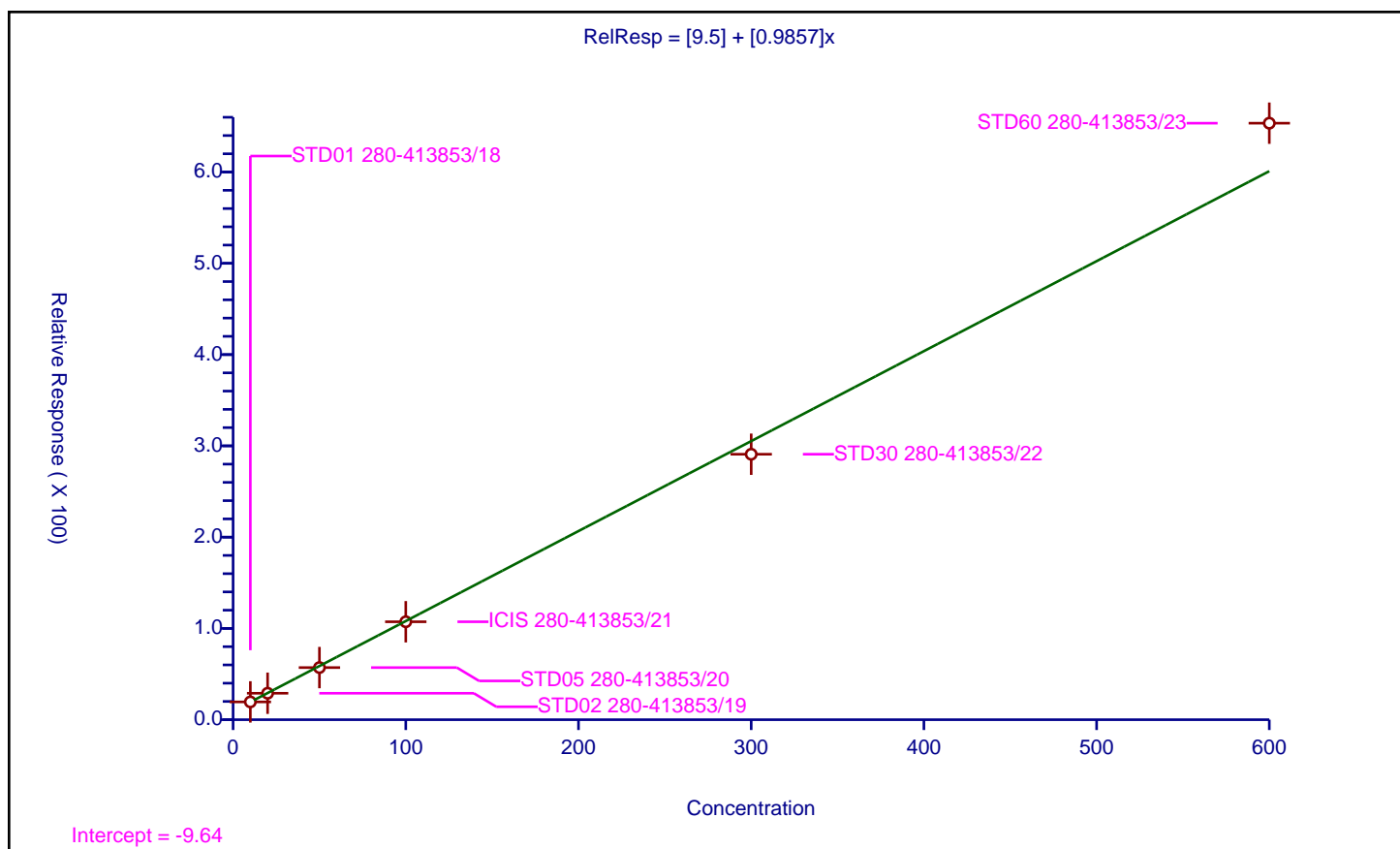
### Curve Coefficients

Intercept: 9.5  
 Slope: 0.9857

### Error Coefficients

Standard Error: 245000  
 Relative Standard Error: 5.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	10.0	19.491048	250.0	161587.0	1.949105	Y
2	STD02 280-413853/19	20.0	28.987753	250.0	162974.0	1.449388	Y
3	STD05 280-413853/20	50.0	57.083929	250.0	167880.0	1.141679	Y
4	ICIS 280-413853/21	100.0	107.310131	250.0	166536.0	1.073101	Y
5	STD30 280-413853/22	300.0	290.827917	250.0	174317.0	0.969426	Y
6	STD60 280-413853/23	600.0	653.519432	250.0	167868.0	1.089199	Y





# Calibration

/ Acetonitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

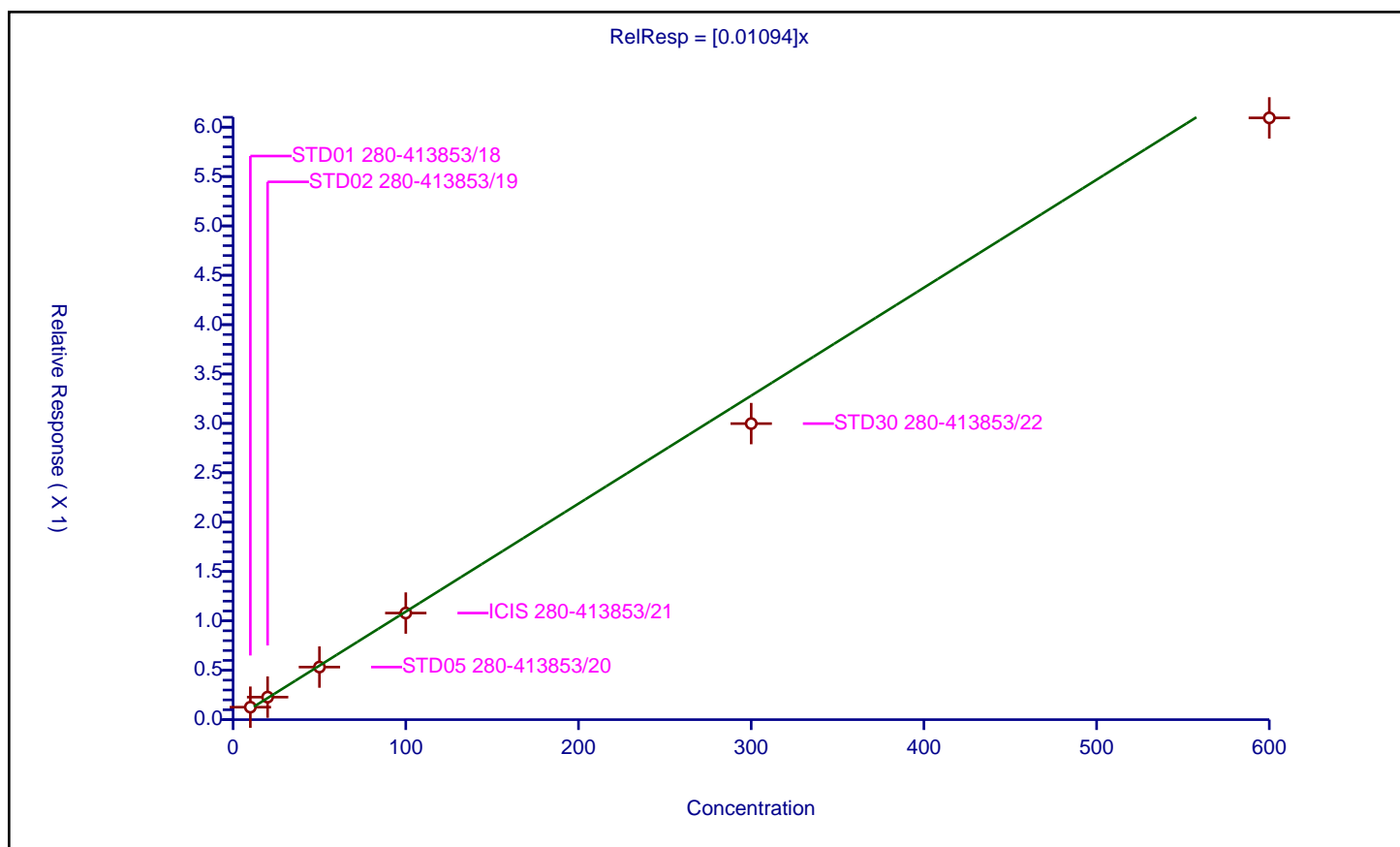
## Curve Coefficients

Intercept: 0  
 Slope: 0.01094

## Error Coefficients

Standard Error: 456000  
 Relative Standard Error: 8.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	10.0	0.126148	12.5	1870528.0	0.012615	Y
2	STD02 280-413853/19	20.0	0.228186	12.5	1842573.0	0.011409	Y
3	STD05 280-413853/20	50.0	0.532381	12.5	1790893.0	0.010648	Y
4	ICIS 280-413853/21	100.0	1.079453	12.5	1773409.0	0.010795	Y
5	STD30 280-413853/22	300.0	2.997846	12.5	1804967.0	0.009993	Y
6	STD60 280-413853/23	600.0	6.093951	12.5	1860271.0	0.010157	Y





## Calibration

/ Isopropyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

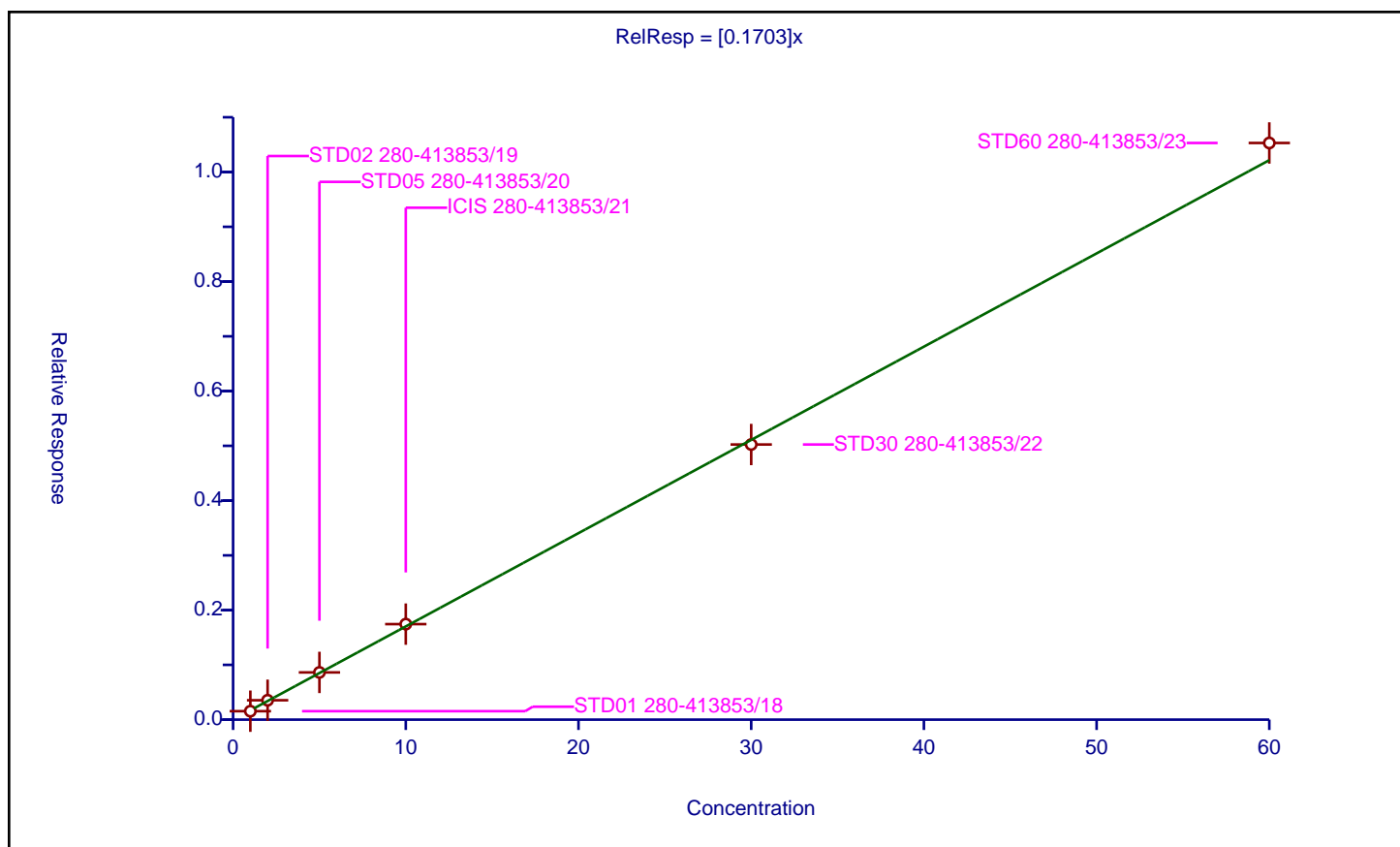
### Curve Coefficients

Intercept: 0  
 Slope: 0.1703

### Error Coefficients

Standard Error: 783000  
 Relative Standard Error: 4.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	0.154609	12.5	1870528.0	0.154609	Y
2	STD02 280-413853/19	2.0	0.354165	12.5	1842573.0	0.177083	Y
3	STD05 280-413853/20	5.0	0.862621	12.5	1790893.0	0.172524	Y
4	ICIS 280-413853/21	10.0	1.744557	12.5	1773409.0	0.174456	Y
5	STD30 280-413853/22	30.0	5.024392	12.5	1804967.0	0.16748	Y
6	STD60 280-413853/23	60.0	10.530825	12.5	1860271.0	0.175514	Y





## Calibration

/ 2-Chloro-1,3-butadiene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

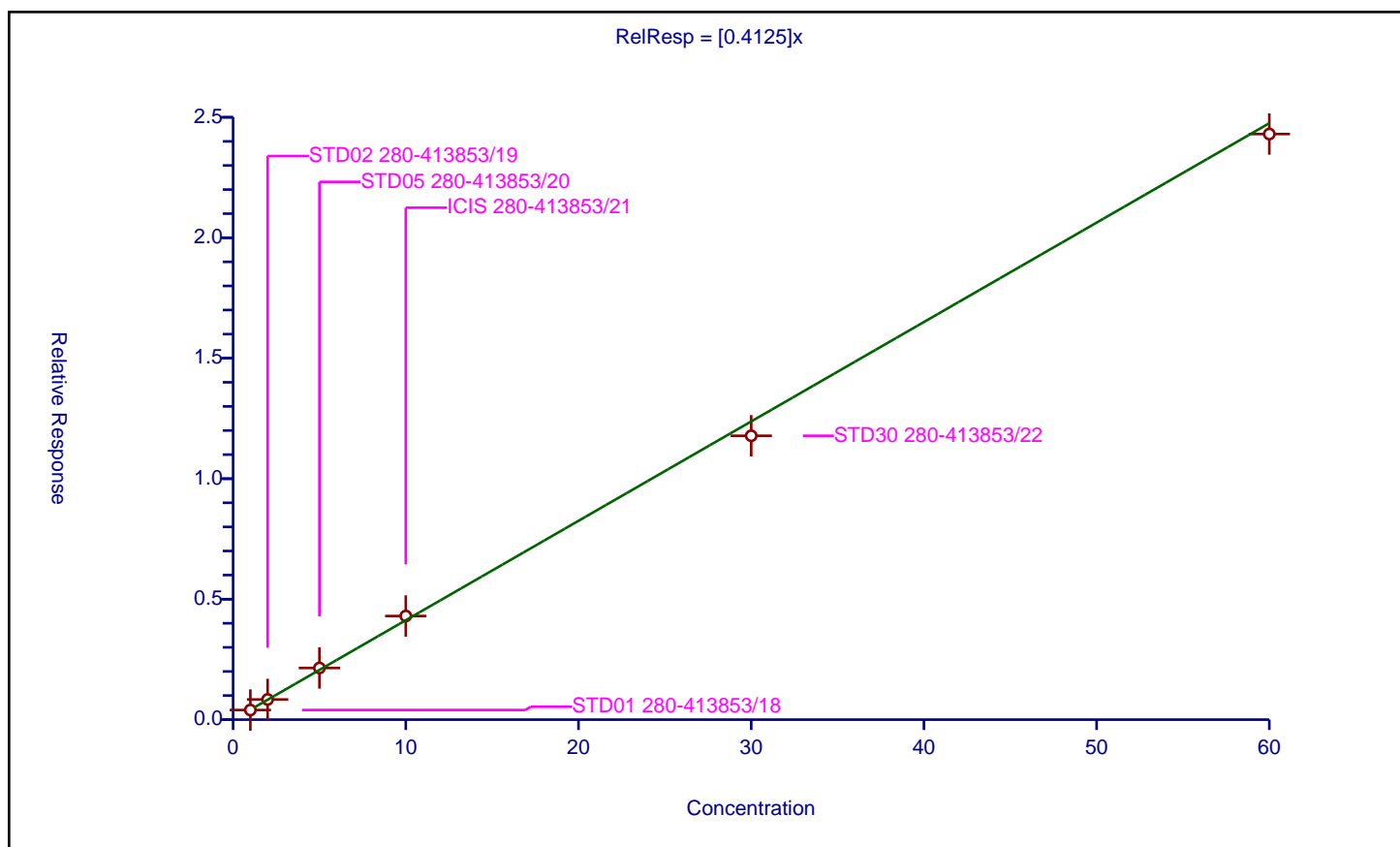
### Curve Coefficients

Intercept: 0  
 Slope: 0.4125

### Error Coefficients

Standard Error: 1810000  
 Relative Standard Error: 3.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	0.399994	12.5	1870528.0	0.399994	Y
2	STD02 280-413853/19	2.0	0.8369	12.5	1842573.0	0.41845	Y
3	STD05 280-413853/20	5.0	2.144419	12.5	1790893.0	0.428884	Y
4	ICIS 280-413853/21	10.0	4.301708	12.5	1773409.0	0.430171	Y
5	STD30 280-413853/22	30.0	11.781545	12.5	1804967.0	0.392718	Y
6	STD60 280-413853/23	60.0	24.304409	12.5	1860271.0	0.405073	Y





## Calibration

/ Tert-butyl ethyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

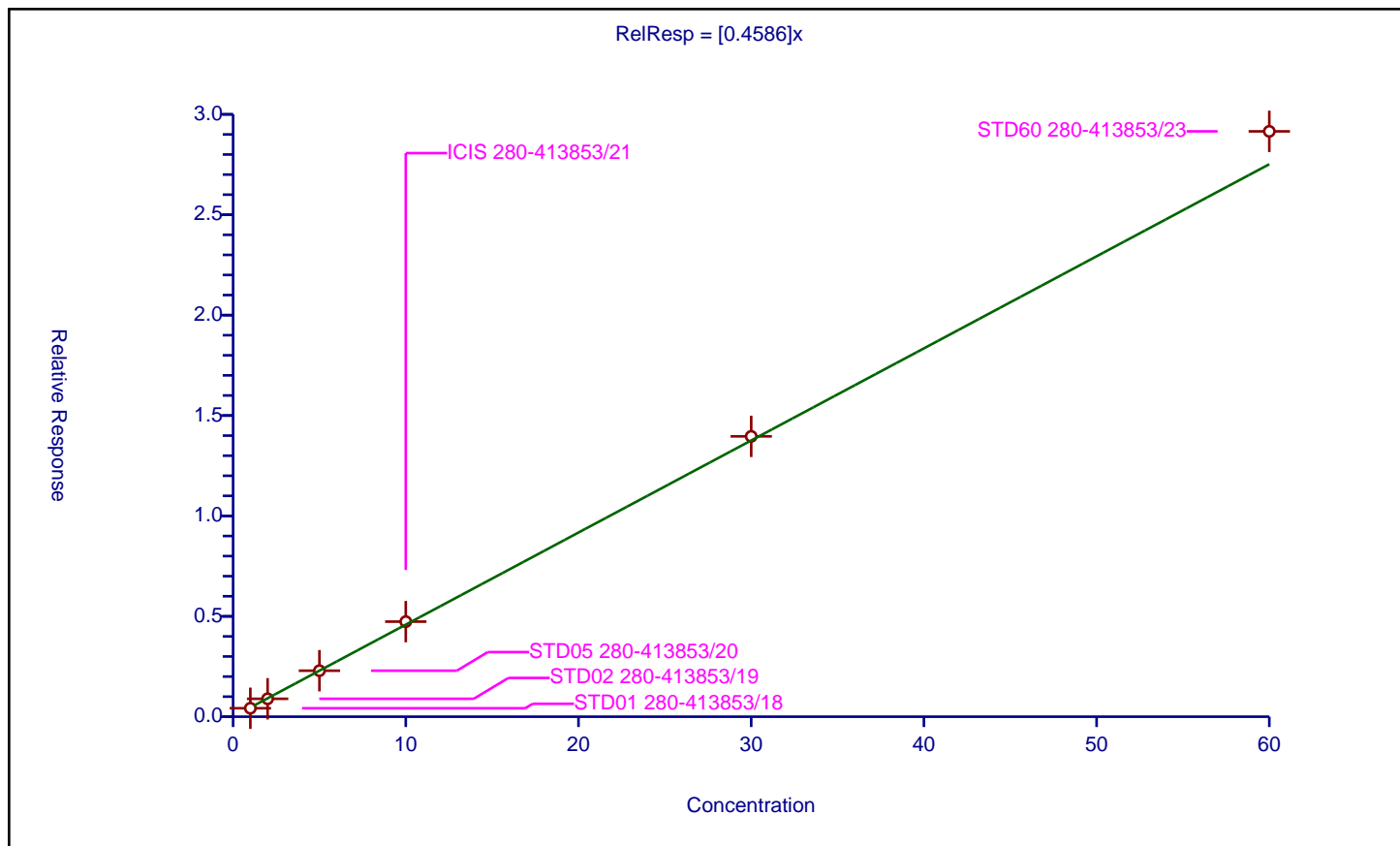
### Curve Coefficients

Intercept: 0  
 Slope: 0.4586

### Error Coefficients

Standard Error: 2170000  
 Relative Standard Error: 4.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	0.42204	12.5	1870528.0	0.42204	Y
2	STD02 280-413853/19	2.0	0.892984	12.5	1842573.0	0.446492	Y
3	STD05 280-413853/20	5.0	2.291797	12.5	1790893.0	0.458359	Y
4	ICIS 280-413853/21	10.0	4.735202	12.5	1773409.0	0.47352	Y
5	STD30 280-413853/22	30.0	13.962264	12.5	1804967.0	0.465409	Y
6	STD60 280-413853/23	60.0	29.15381	12.5	1860271.0	0.485897	Y





## Calibration

/ Ethyl acetate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

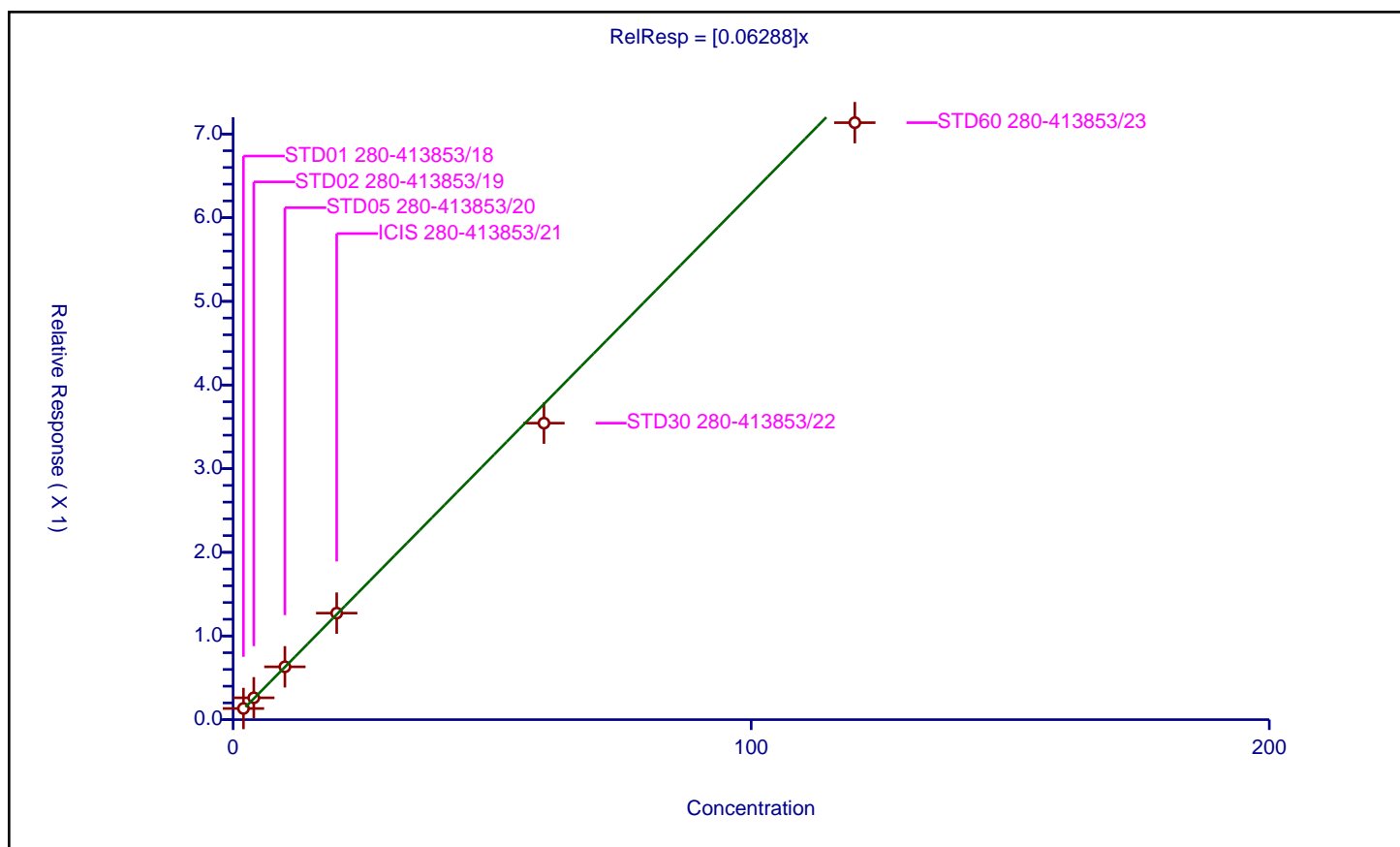
### Curve Coefficients

Intercept: 0  
 Slope: 0.06288

### Error Coefficients

Standard Error: 535000  
 Relative Standard Error: 4.9  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	2.0	0.133378	12.5	1870528.0	0.066689	Y
2	STD02 280-413853/19	4.0	0.261055	12.5	1842573.0	0.065264	Y
3	STD05 280-413853/20	10.0	0.631522	12.5	1790893.0	0.063152	Y
4	ICIS 280-413853/21	20.0	1.273155	12.5	1773409.0	0.063658	Y
5	STD30 280-413853/22	60.0	3.544088	12.5	1804967.0	0.059068	Y
6	STD60 280-413853/23	120.0	7.135694	12.5	1860271.0	0.059464	Y





## Calibration

/ Propionitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

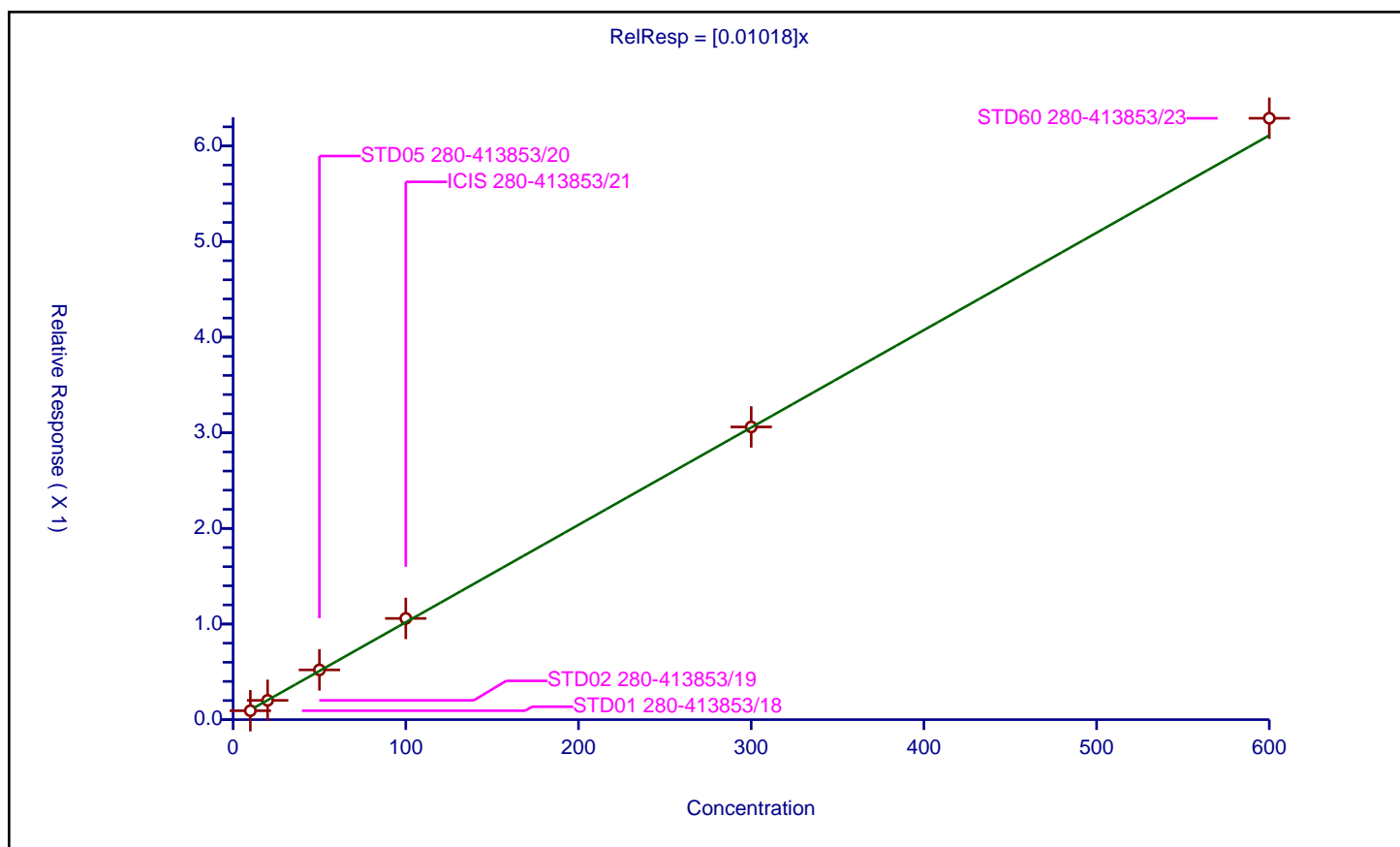
### Curve Coefficients

Intercept: 0  
 Slope: 0.01018

### Error Coefficients

Standard Error: 469000  
 Relative Standard Error: 4.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	10.0	0.093376	12.5	1870528.0	0.009338	Y
2	STD02 280-413853/19	20.0	0.201837	12.5	1842573.0	0.010092	Y
3	STD05 280-413853/20	50.0	0.52032	12.5	1790893.0	0.010406	Y
4	ICIS 280-413853/21	100.0	1.058498	12.5	1773409.0	0.010585	Y
5	STD30 280-413853/22	300.0	3.061386	12.5	1804967.0	0.010205	Y
6	STD60 280-413853/23	600.0	6.289682	12.5	1860271.0	0.010483	Y





# Calibration

/ Methacrylonitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

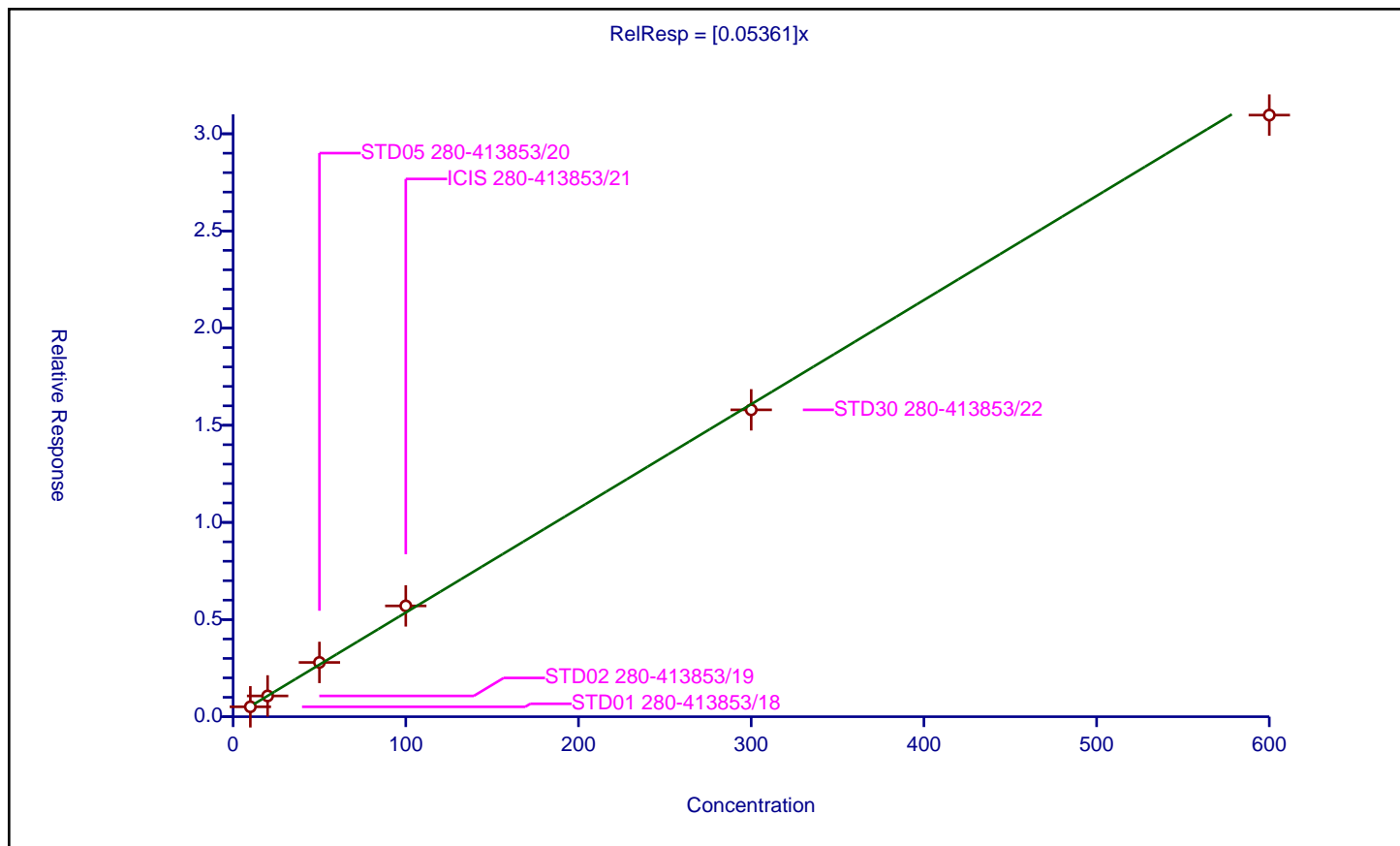
## Curve Coefficients

Intercept: 0  
 Slope: 0.05361

## Error Coefficients

Standard Error: 2340000  
 Relative Standard Error: 4.4  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	10.0	0.510244	12.5	1870528.0	0.051024	Y
2	STD02 280-413853/19	20.0	1.069435	12.5	1842573.0	0.053472	Y
3	STD05 280-413853/20	50.0	2.793167	12.5	1790893.0	0.055863	Y
4	ICIS 280-413853/21	100.0	5.703013	12.5	1773409.0	0.05703	Y
5	STD30 280-413853/22	300.0	15.793634	12.5	1804967.0	0.052645	Y
6	STD60 280-413853/23	600.0	30.962008	12.5	1860271.0	0.051603	Y





## Calibration

/ Dibromofluoromethane (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

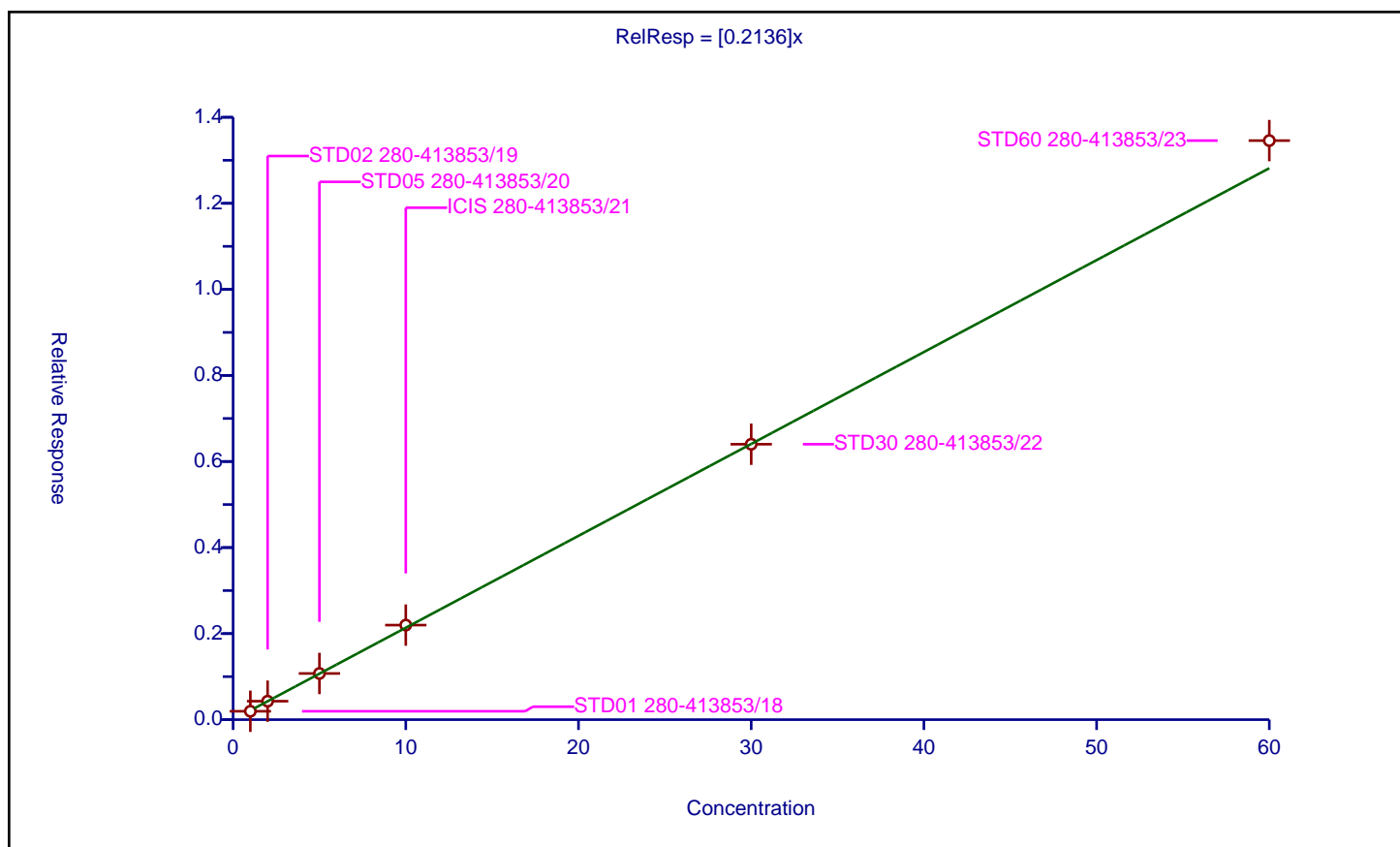
### Curve Coefficients

Intercept: 0  
 Slope: 0.2136

### Error Coefficients

Standard Error: 999000  
 Relative Standard Error: 4.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	0.194912	12.5	1870528.0	0.194912	Y
2	STD02 280-413853/19	2.0	0.429325	12.5	1842573.0	0.214662	Y
3	STD05 280-413853/20	5.0	1.073215	12.5	1790893.0	0.214643	Y
4	ICIS 280-413853/21	10.0	2.197237	12.5	1773409.0	0.219724	Y
5	STD30 280-413853/22	30.0	6.400927	12.5	1804967.0	0.213364	Y
6	STD60 280-413853/23	60.0	13.458012	12.5	1860271.0	0.2243	Y





## Calibration

/ 1,2-Dichloroethane-d4 (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

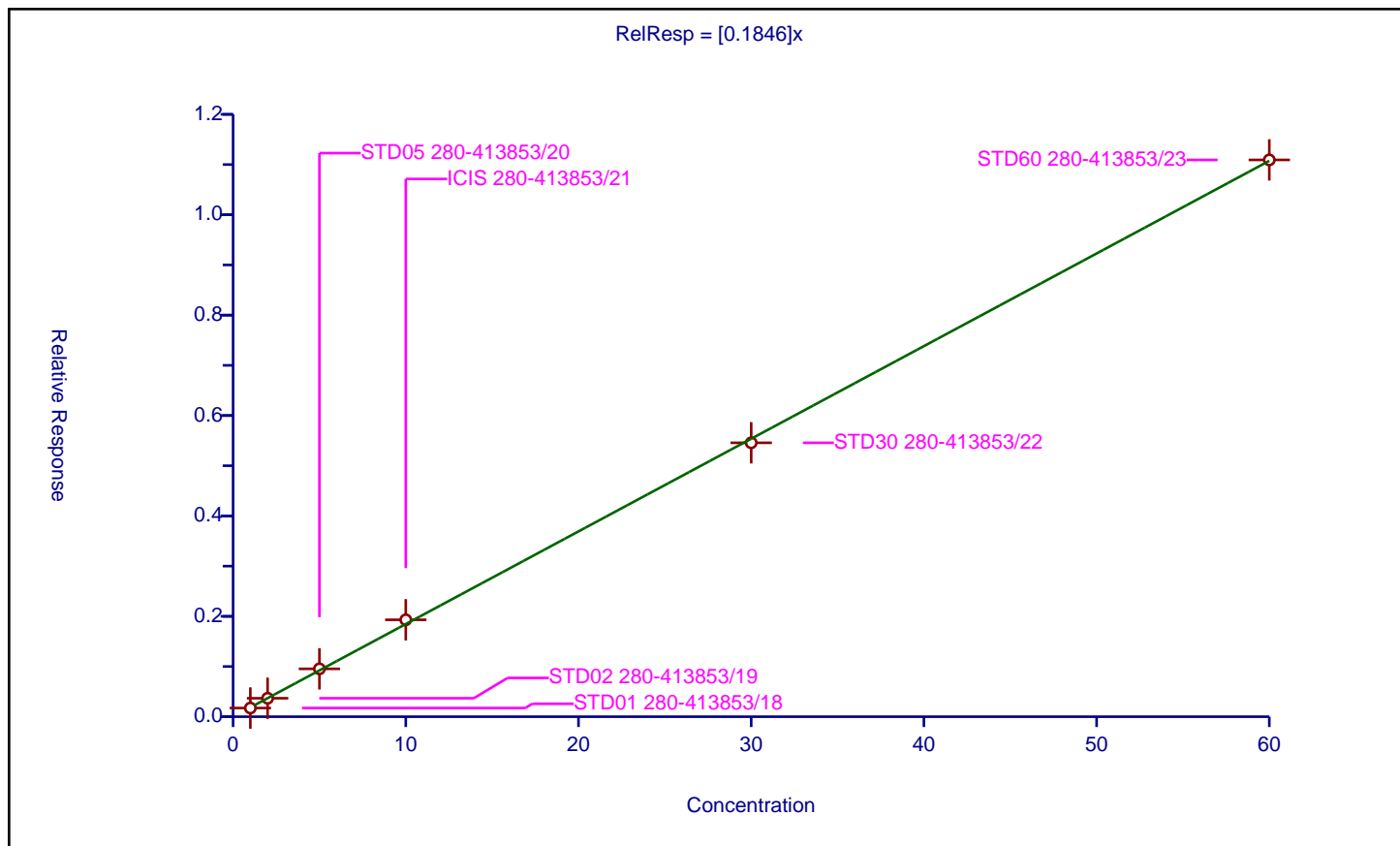
### Curve Coefficients

Intercept: 0  
 Slope: 0.1846

### Error Coefficients

Standard Error: 830000  
 Relative Standard Error: 3.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	0.172926	12.5	1870528.0	0.172926	Y
2	STD02 280-413853/19	2.0	0.367801	12.5	1842573.0	0.1839	Y
3	STD05 280-413853/20	5.0	0.953665	12.5	1790893.0	0.190733	Y
4	ICIS 280-413853/21	10.0	1.93078	12.5	1773409.0	0.193078	Y
5	STD30 280-413853/22	30.0	5.45697	12.5	1804967.0	0.181899	Y
6	STD60 280-413853/23	60.0	11.09286	12.5	1860271.0	0.184881	Y





## Calibration

/ Tert-amyl methyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

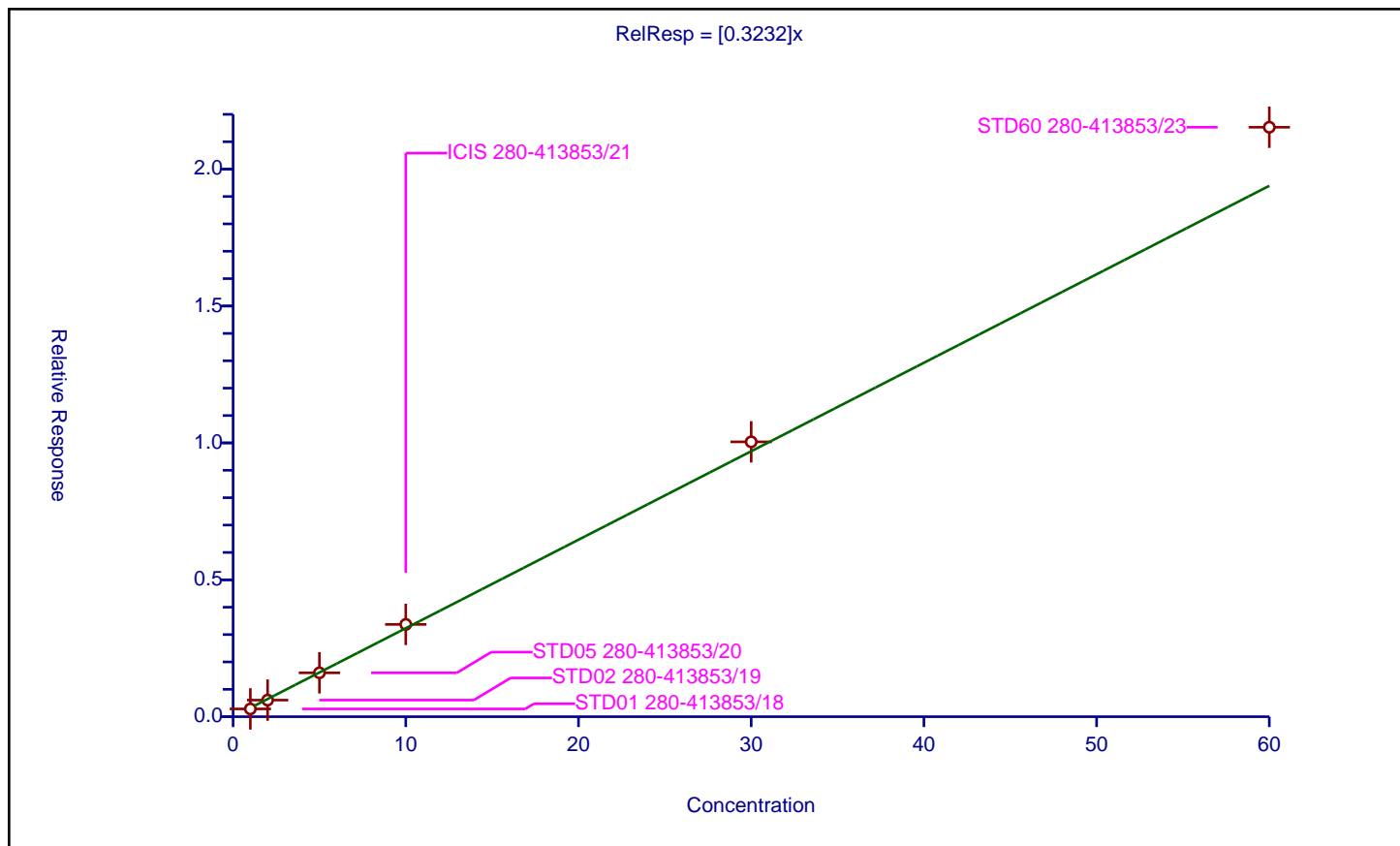
### Curve Coefficients

Intercept: 0  
 Slope: 0.3232

### Error Coefficients

Standard Error: 1590000  
 Relative Standard Error: 8.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	0.284572	12.5	1870528.0	0.284572	Y
2	STD02 280-413853/19	2.0	0.606469	12.5	1842573.0	0.303234	Y
3	STD05 280-413853/20	5.0	1.603425	12.5	1790893.0	0.320685	Y
4	ICIS 280-413853/21	10.0	3.370993	12.5	1773409.0	0.337099	Y
5	STD30 280-413853/22	30.0	10.038965	12.5	1804967.0	0.334632	Y
6	STD60 280-413853/23	60.0	21.529827	12.5	1860271.0	0.35883	Y





# Calibration

/ n-Butanol

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

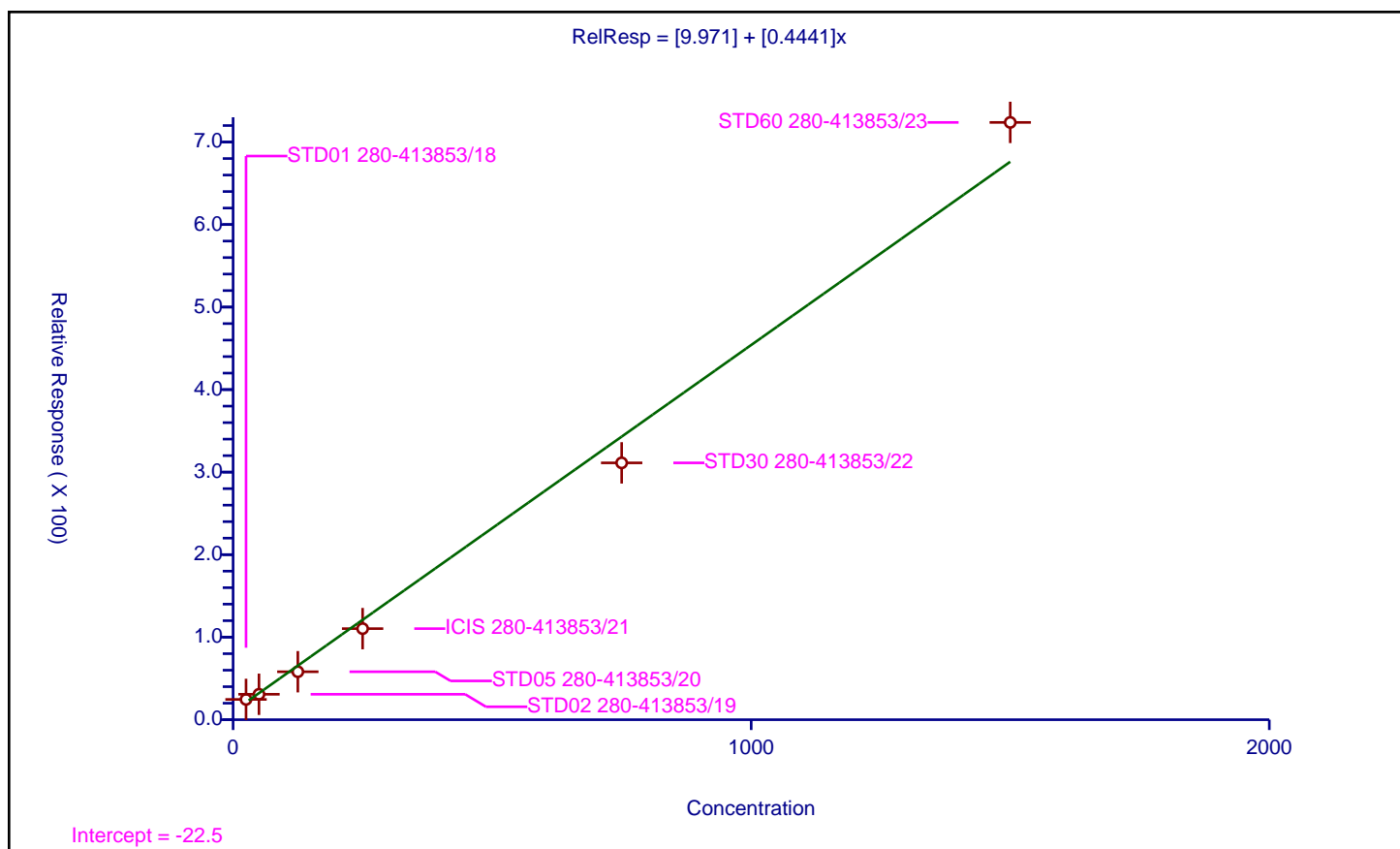
## Curve Coefficients

Intercept: 9.971  
 Slope: 0.4441

## Error Coefficients

Standard Error: 269000  
 Relative Standard Error: 19.0  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	25.0	24.565714	250.0	161587.0	0.982629	Y
2	STD02 280-413853/19	50.0	30.797857	250.0	162974.0	0.615957	Y
3	STD05 280-413853/20	125.0	58.101025	250.0	167880.0	0.464808	Y
4	ICIS 280-413853/21	250.0	110.356019	250.0	166536.0	0.441424	Y
5	STD30 280-413853/22	750.0	311.241875	250.0	174317.0	0.414989	Y
6	STD60 280-413853/23	1500.0	723.774037	250.0	167868.0	0.482516	Y





# Calibration

/ Methyl methacrylate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

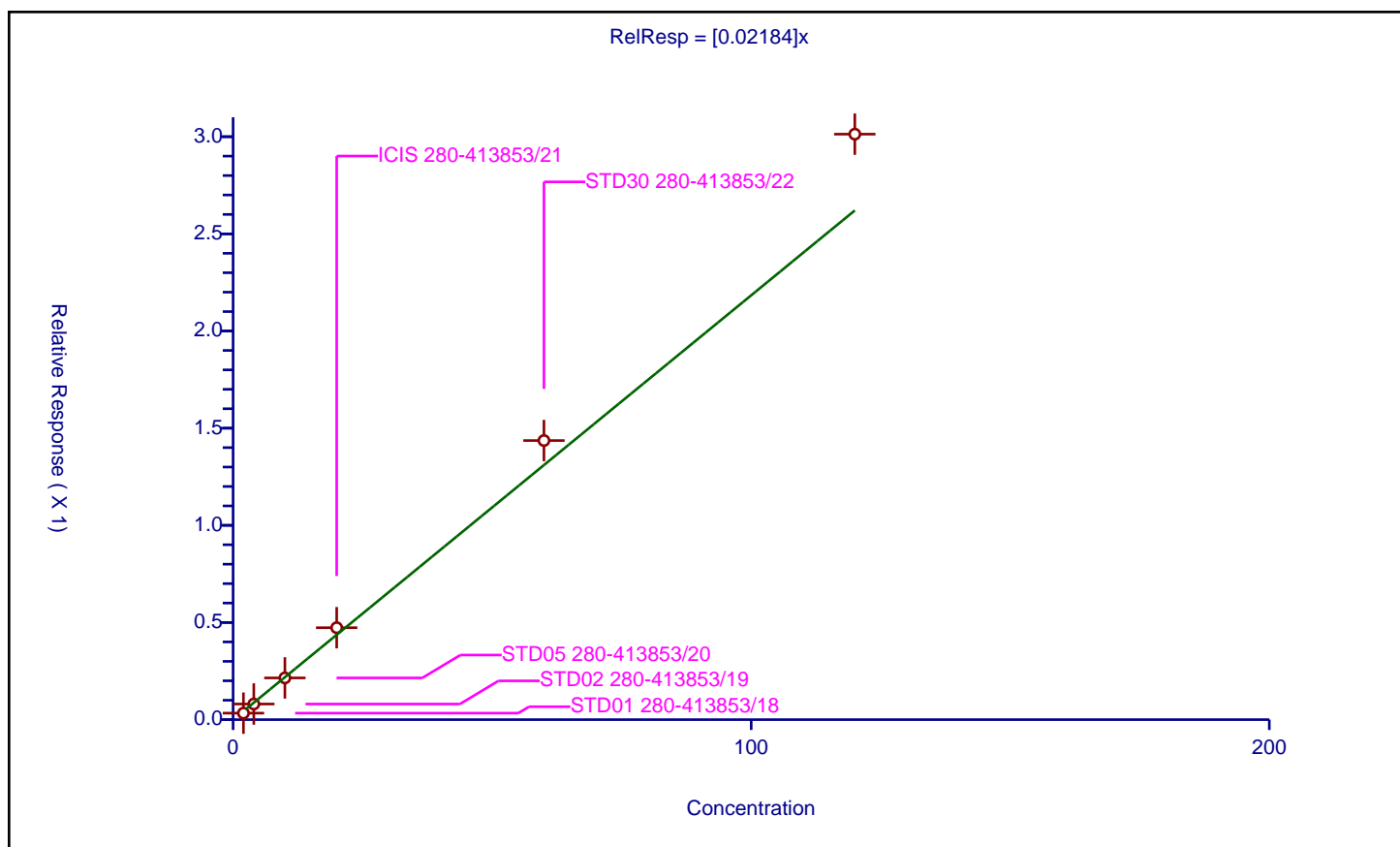
## Curve Coefficients

Intercept: 0  
 Slope: 0.02184

## Error Coefficients

Standard Error: 223000  
 Relative Standard Error: 14.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.976

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	2.0	0.033487	12.5	1870528.0	0.016743	Y
2	STD02 280-413853/19	4.0	0.080431	12.5	1842573.0	0.020108	Y
3	STD05 280-413853/20	10.0	0.214683	12.5	1790893.0	0.021468	Y
4	ICIS 280-413853/21	20.0	0.473114	12.5	1773409.0	0.023656	Y
5	STD30 280-413853/22	60.0	1.436328	12.5	1804967.0	0.023939	Y
6	STD60 280-413853/23	120.0	3.01313	12.5	1860271.0	0.025109	Y





## Calibration

/ 2-Nitropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

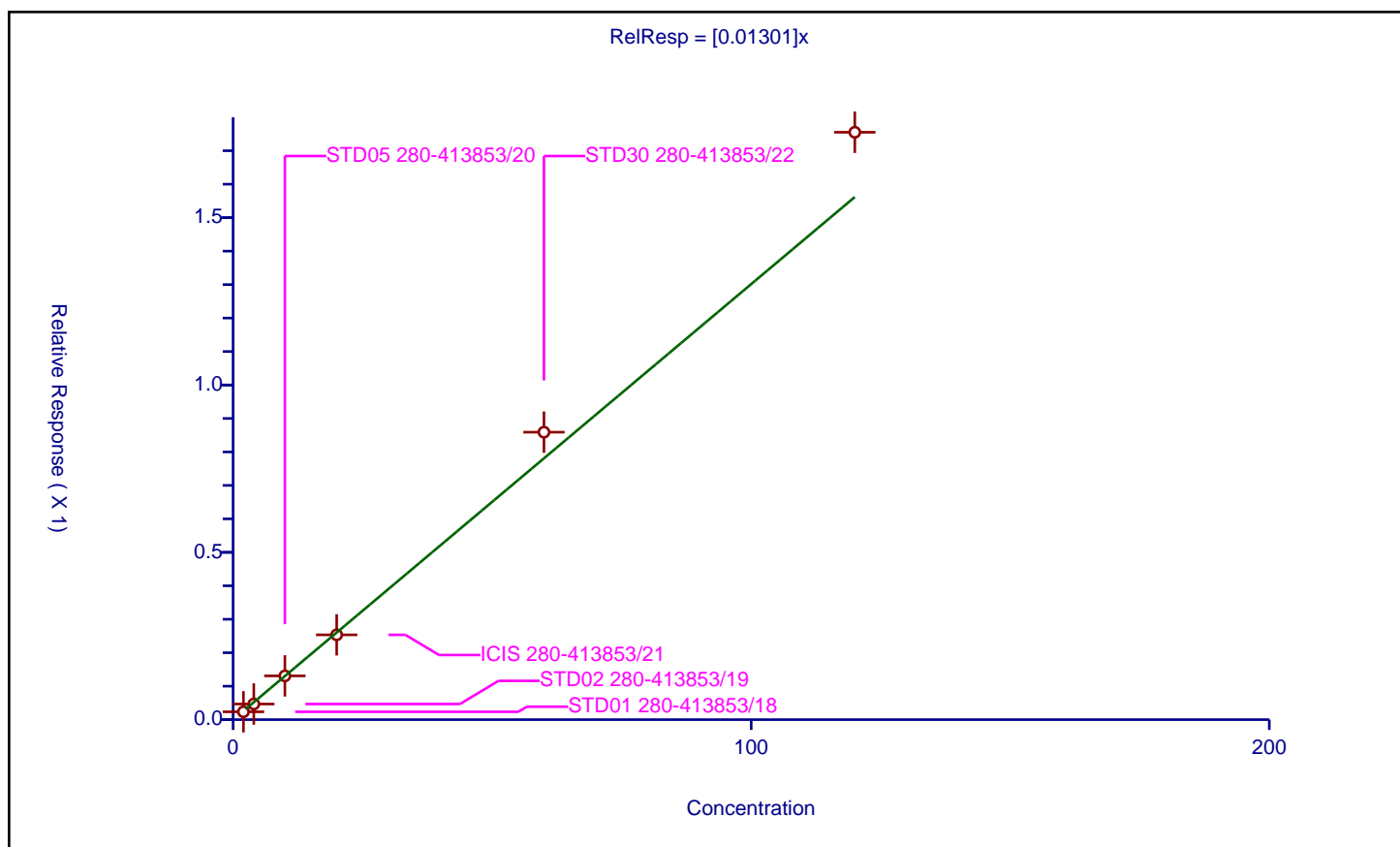
### Curve Coefficients

Intercept: 0  
 Slope: 0.01301

### Error Coefficients

Standard Error: 131000  
 Relative Standard Error: 9.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	2.0	0.023449	12.5	1870528.0	0.011725	Y
2	STD02 280-413853/19	4.0	0.046687	12.5	1842573.0	0.011672	Y
3	STD05 280-413853/20	10.0	0.130766	12.5	1790893.0	0.013077	Y
4	ICIS 280-413853/21	20.0	0.253438	12.5	1773409.0	0.012672	Y
5	STD30 280-413853/22	60.0	0.858963	12.5	1804967.0	0.014316	Y
6	STD60 280-413853/23	120.0	1.755215	12.5	1860271.0	0.014627	Y





## Calibration

/ Toluene-d8 (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

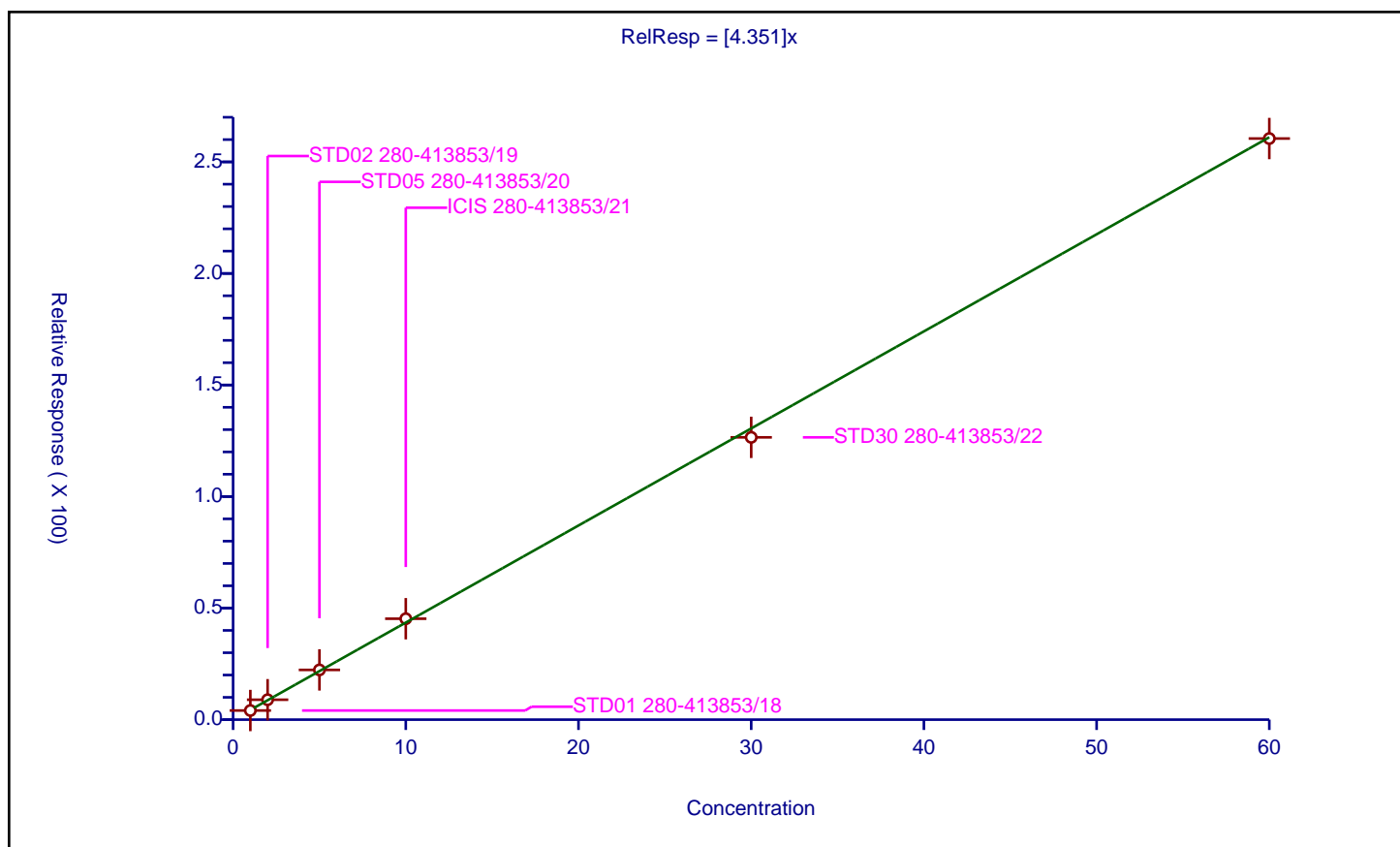
### Curve Coefficients

Intercept: 0  
 Slope: 4.351

### Error Coefficients

Standard Error: 4060000  
 Relative Standard Error: 3.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	4.099512	12.5	393248.0	4.099512	Y
2	STD02 280-413853/19	2.0	8.930884	12.5	383078.0	4.465442	Y
3	STD05 280-413853/20	5.0	22.28789	12.5	375736.0	4.457578	Y
4	ICIS 280-413853/21	10.0	45.239444	12.5	369450.0	4.523944	Y
5	STD30 280-413853/22	30.0	126.527915	12.5	379586.0	4.217597	Y
6	STD60 280-413853/23	60.0	260.471704	12.5	387314.0	4.341195	Y





## Calibration

/ Tetrahydrothiophene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

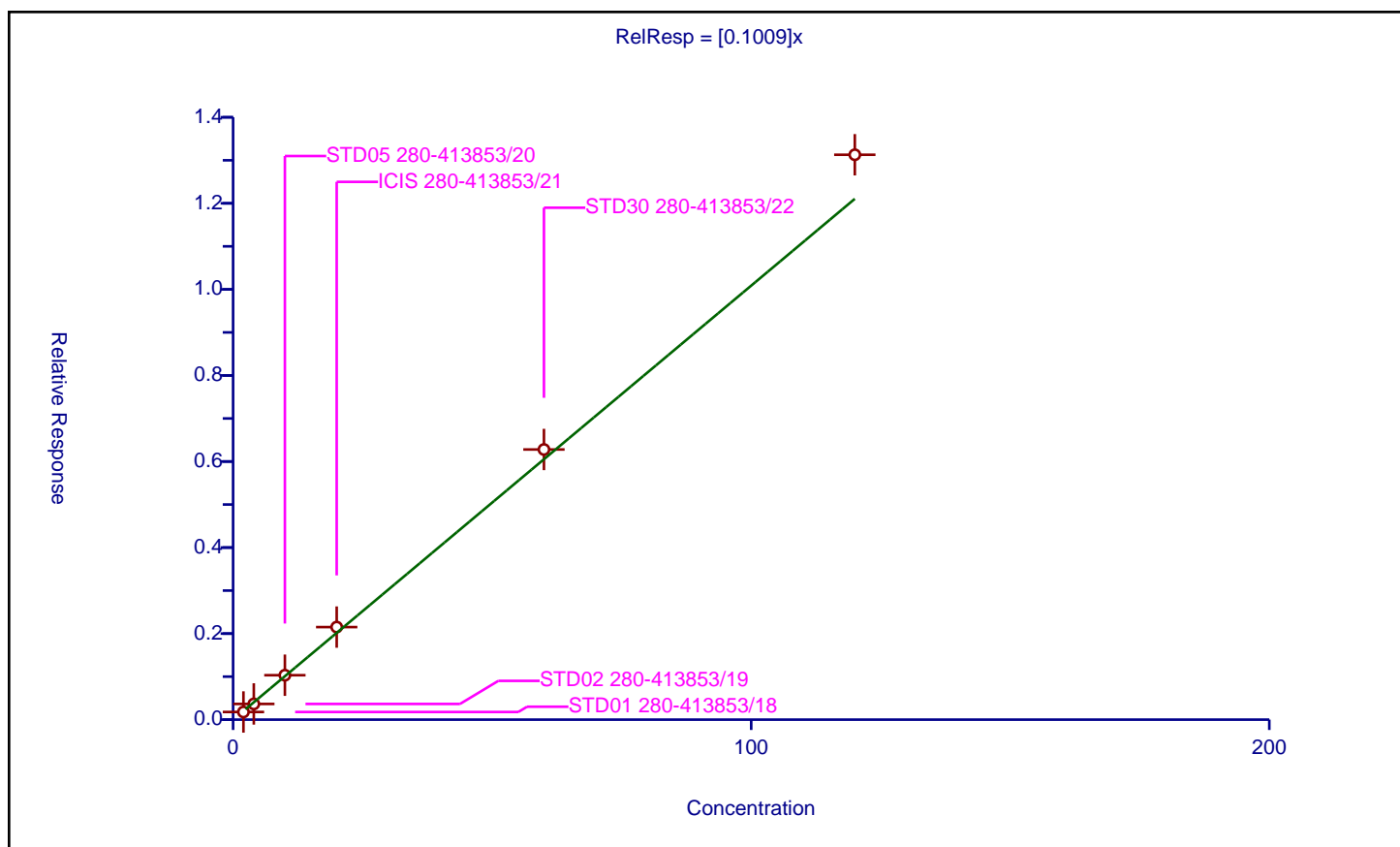
### Curve Coefficients

Intercept: 0  
 Slope: 0.1009

### Error Coefficients

Standard Error: 203000  
 Relative Standard Error: 8.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	2.0	0.178323	12.5	393248.0	0.089161	Y
2	STD02 280-413853/19	4.0	0.36471	12.5	383078.0	0.091178	Y
3	STD05 280-413853/20	10.0	1.032706	12.5	375736.0	0.103271	Y
4	ICIS 280-413853/21	20.0	2.151238	12.5	369450.0	0.107562	Y
5	STD30 280-413853/22	60.0	6.278913	12.5	379586.0	0.104649	Y
6	STD60 280-413853/23	120.0	13.128818	12.5	387314.0	0.109407	Y





## Calibration

/ cis-1,4-Dichloro-2-butene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

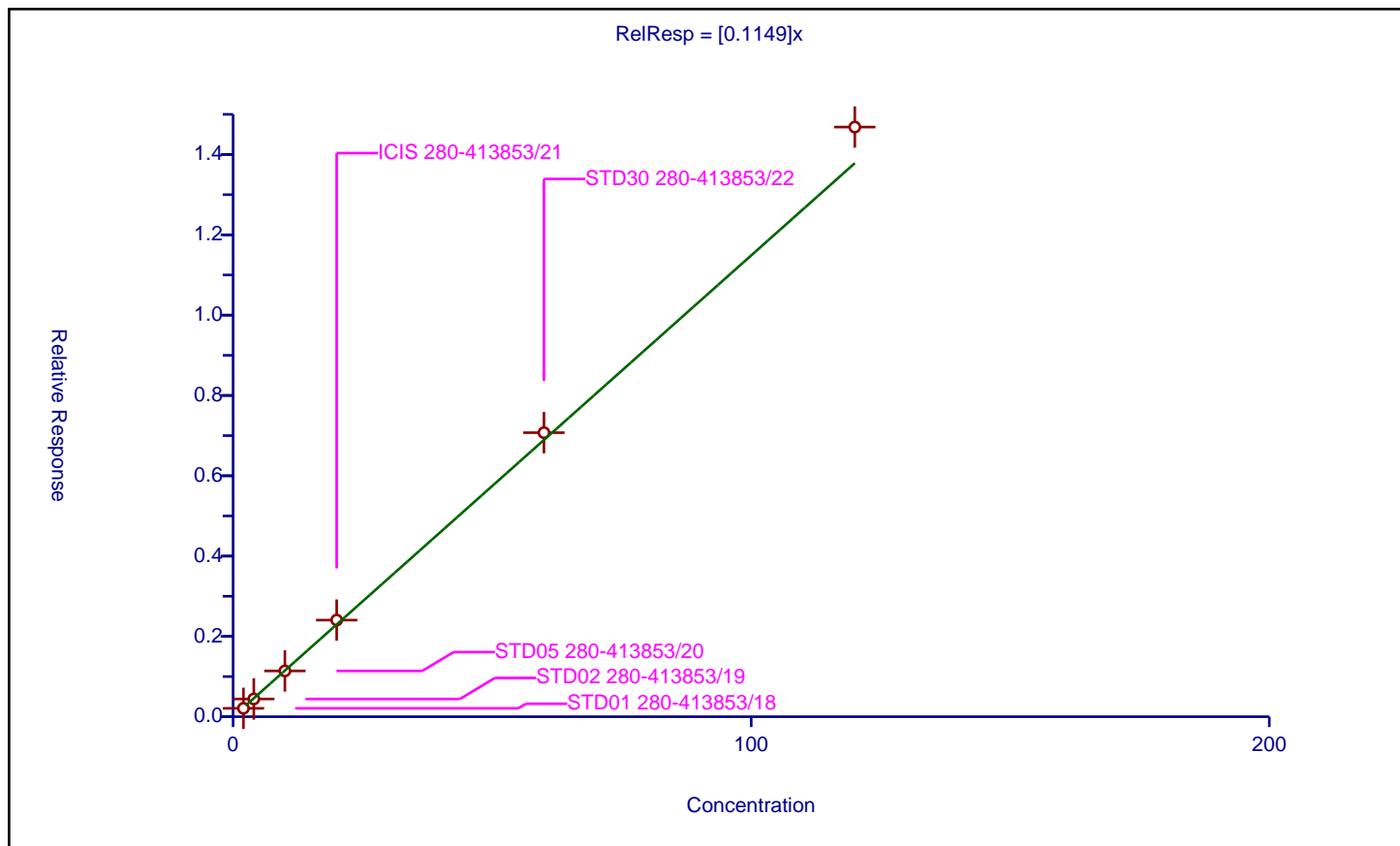
### Curve Coefficients

Intercept: 0  
 Slope: 0.1149

### Error Coefficients

Standard Error: 315000  
 Relative Standard Error: 5.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	2.0	0.208515	12.5	538032.0	0.104257	Y
2	STD02 280-413853/19	4.0	0.441626	12.5	523067.0	0.110407	Y
3	STD05 280-413853/20	10.0	1.140236	12.5	508842.0	0.114024	Y
4	ICIS 280-413853/21	20.0	2.405947	12.5	507934.0	0.120297	Y
5	STD30 280-413853/22	60.0	7.073236	12.5	520317.0	0.117887	Y
6	STD60 280-413853/23	120.0	14.683504	12.5	537479.0	0.122363	Y





# Calibration

/ 4-Bromofluorobenzene (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

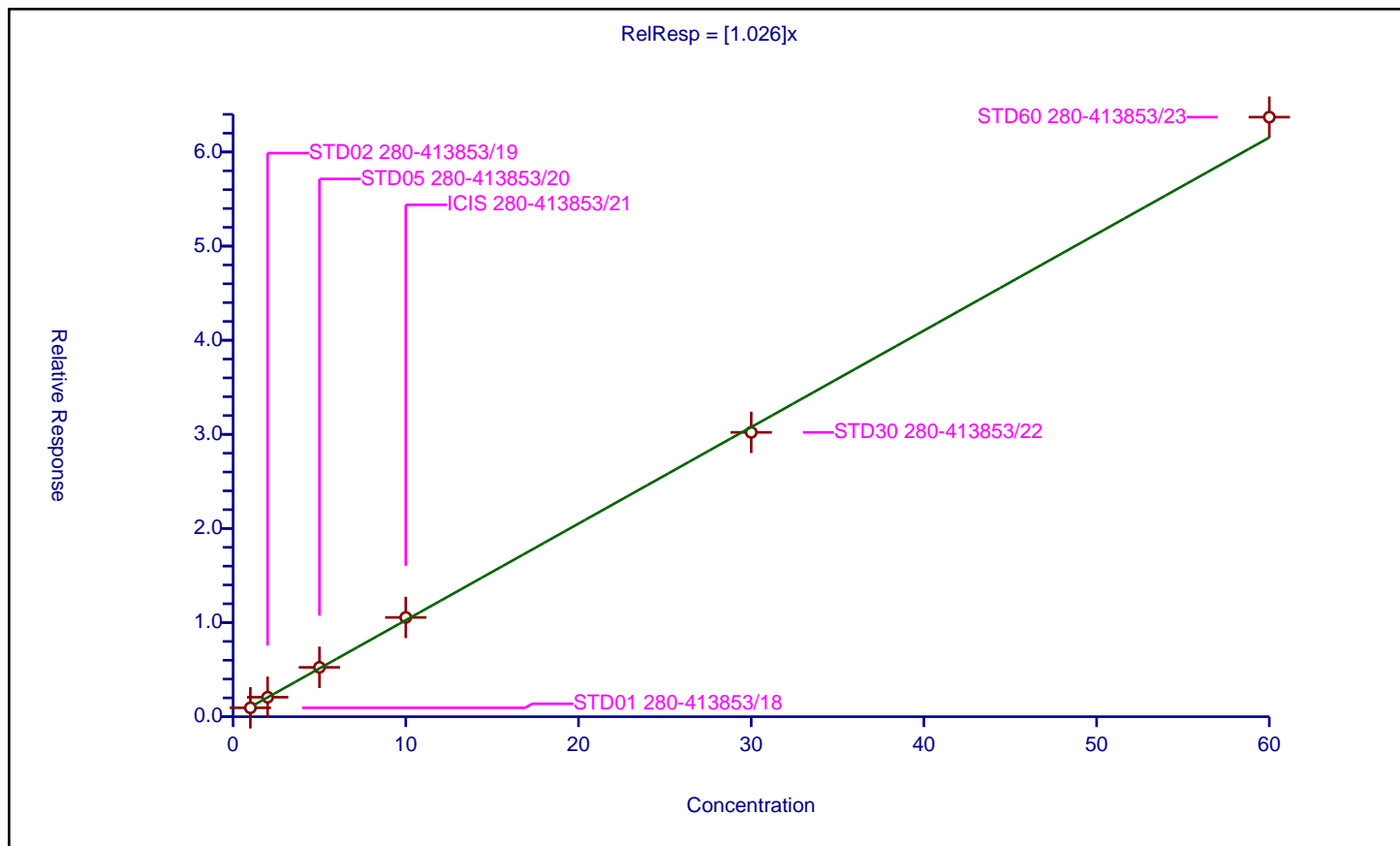
## Curve Coefficients

Intercept: 0  
 Slope: 1.026

## Error Coefficients

Standard Error: 1370000  
 Relative Standard Error: 4.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	0.94611	12.5	538032.0	0.94611	Y
2	STD02 280-413853/19	2.0	2.07103	12.5	523067.0	1.035515	Y
3	STD05 280-413853/20	5.0	5.244457	12.5	508842.0	1.048891	Y
4	ICIS 280-413853/21	10.0	10.547187	12.5	507934.0	1.054719	Y
5	STD30 280-413853/22	30.0	30.211198	12.5	520317.0	1.00704	Y
6	STD60 280-413853/23	60.0	63.705442	12.5	537479.0	1.061757	Y





## Calibration

/ 1,2,3-Trimethylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

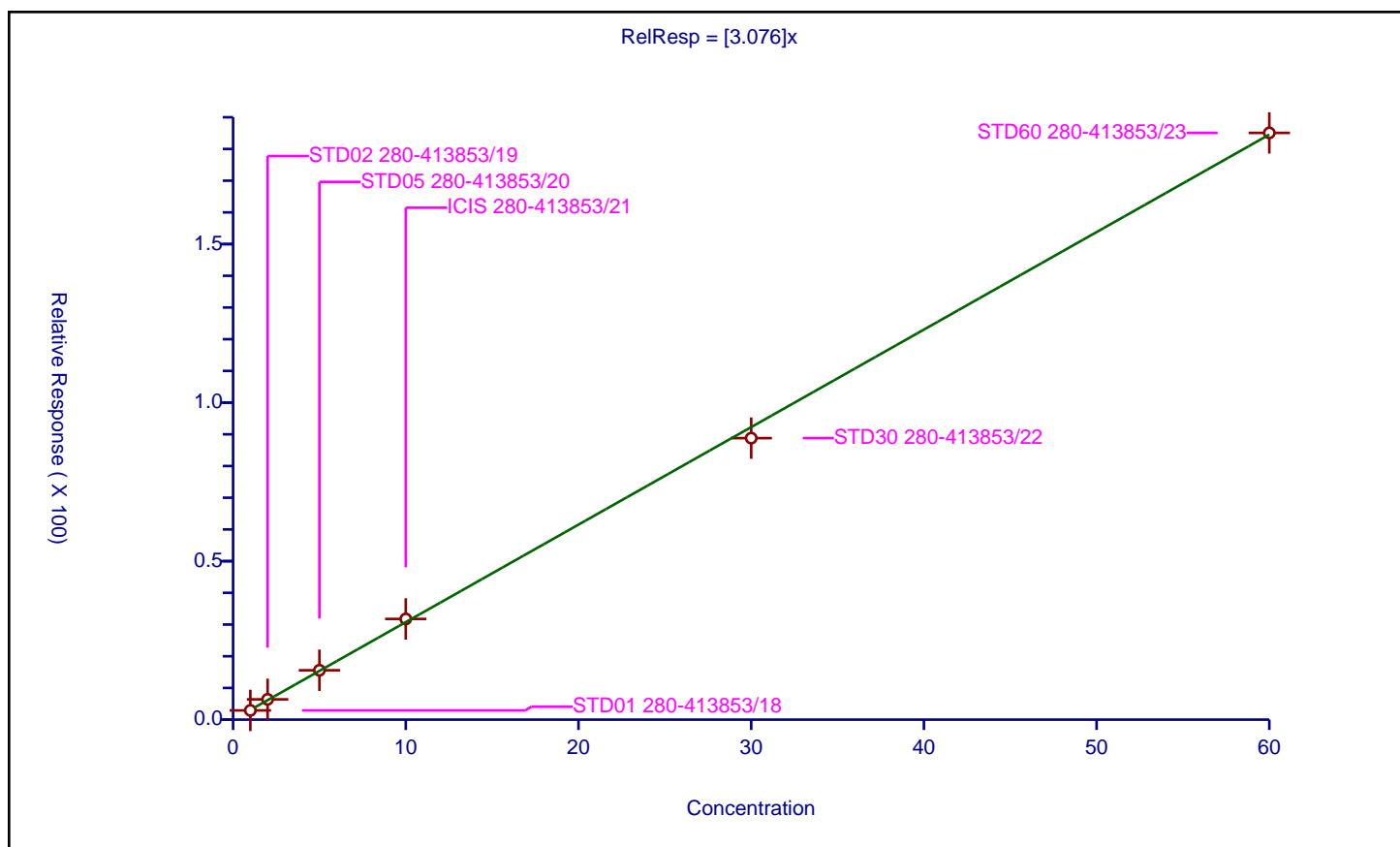
### Curve Coefficients

Intercept: 0  
 Slope: 3.076

### Error Coefficients

Standard Error: 3980000  
 Relative Standard Error: 3.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	2.915184	12.5	538032.0	2.915184	Y
2	STD02 280-413853/19	2.0	6.406923	12.5	523067.0	3.203462	Y
3	STD05 280-413853/20	5.0	15.576741	12.5	508842.0	3.115348	Y
4	ICIS 280-413853/21	10.0	31.759121	12.5	507934.0	3.175912	Y
5	STD30 280-413853/22	30.0	88.793346	12.5	520317.0	2.959778	Y
6	STD60 280-413853/23	60.0	185.073789	12.5	537479.0	3.084563	Y





## Calibration

/ 1,3,5-Trichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

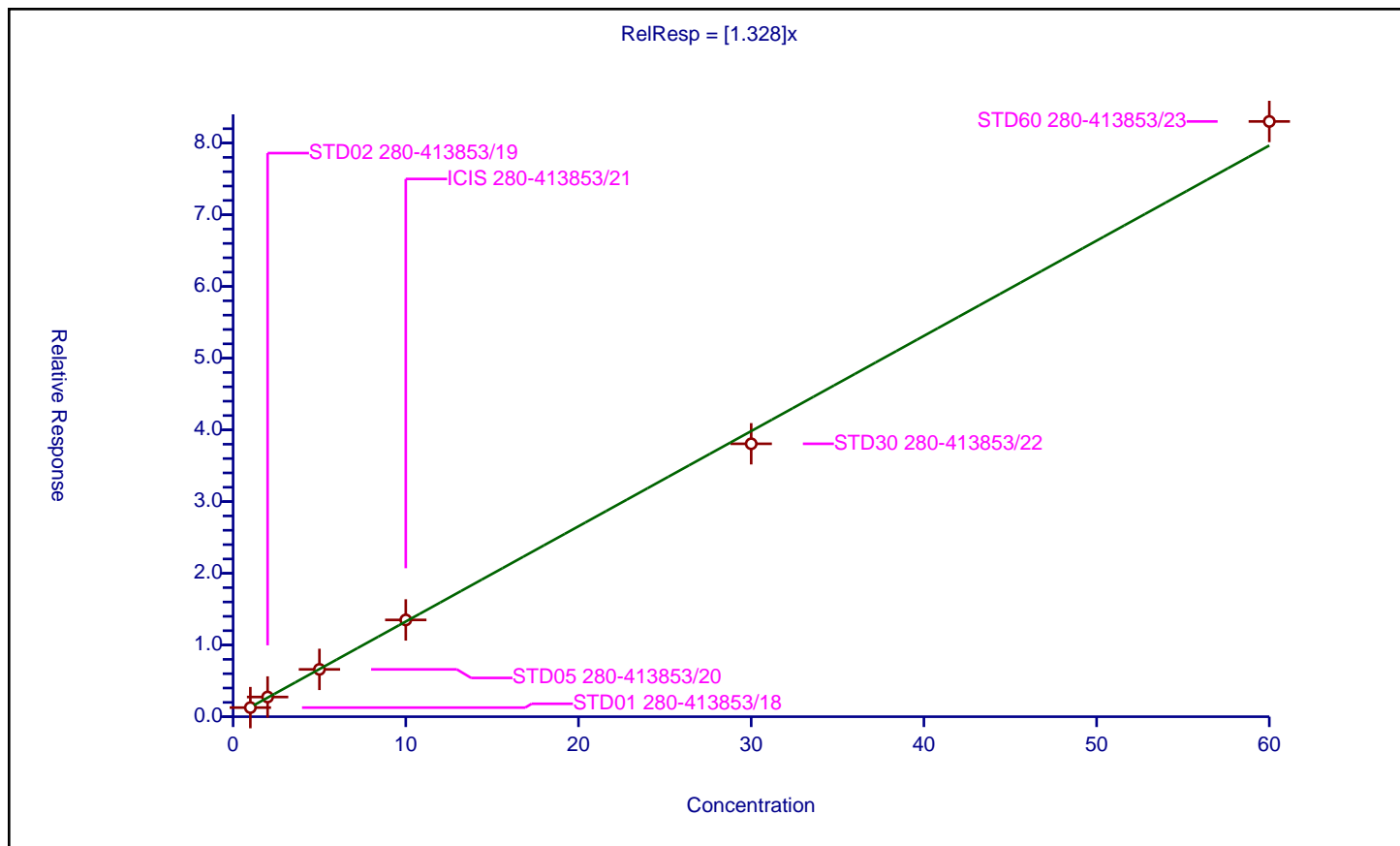
### Curve Coefficients

Intercept: 0  
 Slope: 1.328

### Error Coefficients

Standard Error: 1770000  
 Relative Standard Error: 3.8  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD01 280-413853/18	1.0	1.269511	12.5	538032.0	1.269511	Y
2	STD02 280-413853/19	2.0	2.749337	12.5	523067.0	1.374669	Y
3	STD05 280-413853/20	5.0	6.599544	12.5	508842.0	1.319909	Y
4	ICIS 280-413853/21	10.0	13.497152	12.5	507934.0	1.349715	Y
5	STD30 280-413853/22	30.0	38.06259	12.5	520317.0	1.268753	Y
6	STD60 280-413853/23	60.0	83.011918	12.5	537479.0	1.383532	Y





FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-418017/12	MS1_3162.D
Level 2	STD01 280-418017/13	MS1_3163.D
Level 3	STD02 280-418017/14	MS1_3164.D
Level 4	STD05 280-418017/15	MS1_3165.D
Level 5	ICIS 280-418017/16	MS1_3166.D
Level 6	STD30 280-418017/17	MS1_3167.D
Level 7	STD60 280-418017/18	MS1_3168.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7															
Dichlorodifluoromethane	0.2785 0.3202	0.2520 0.3322	0.2552	0.3664	0.3576	Lin1	-0.032	0.3325							0.9970		0.9900
Chloromethane	0.3347 0.2935	0.3177 0.2930	0.3047	0.3400	0.3210	Ave		0.3149			0.1000	5.9		15.0			
Vinyl chloride	0.3172 0.2913	0.3063 0.2839	0.3231	0.3537	0.3322	Ave		0.3154				7.6		30.0			
Bromomethane	0.3017 0.2688	0.2742 0.2352	0.2718	0.2896	0.2883	Ave		0.2757				7.7		15.0			
Chloroethane	0.2528 0.2429	0.2471 0.2147	0.2447	0.2610	0.2598	Ave		0.2461				6.3		15.0			
Dichlorofluoromethane	0.6327 0.5484	0.5674 0.5631	0.5757	0.5854	0.5747	Ave		0.5782				4.6		15.0			
Trichlorofluoromethane	0.5361 0.4627	0.4675 0.4910	0.4822	0.5199	0.4899	Ave		0.4928				5.4		15.0			
Ethyl ether	0.1370 0.1217	0.1064 0.1314	0.1071	0.1231	0.1281	Ave		0.1221				9.6		15.0			
Acrolein	0.0110 0.0140	0.0117 0.0156	0.0128	0.0146	0.0157	Ave		0.0136				13.5		15.0			
Acetone	0.0501 0.0202	0.0297 0.0205	0.0248	0.0227	0.0225	Lin2	0.0354	0.0207							0.9990		0.9900
Freon 113	0.2007 0.2096	0.1901 0.2238	0.2107	0.2300	0.2277	Ave		0.2132				6.9		15.0			
1,1-Dichloroethene	0.1918 0.2496	0.2099 0.2719	0.2241	0.2625	0.2682	Ave		0.2397				13.1		30.0			
Iodomethane	0.3522 0.4268	0.3605 0.4609	0.3821	0.4323	0.4518	Ave		0.4095				10.8		15.0			
Methyl acetate	+++++ 0.0536	0.0574 0.0571	0.0549	0.0553	0.0584	Ave		0.0561				3.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.3412 0.4075	0.3343 0.4152	0.3878	0.4371	0.4509	Ave		0.3963				11.3		15.0			
Carbon disulfide	1.0202 1.0507	0.9870 1.0917	1.0156	1.1689	1.1551	Ave		1.0699				6.6		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	++++ 1.2179	1.0668 1.2987	1.1939	1.2272	1.3017	Ave		1.2177				7.1		15.0			
Methylene Chloride	0.2961 0.2385	0.2580 0.2527	0.2521	0.2638	0.2595	Ave		0.2601				6.8		15.0			
Acrylonitrile	0.0243 0.0292	0.0261 0.0308	0.0274	0.0309	0.0313	Ave		0.0286				9.4		15.0			
Methyl tert-butyl ether	0.2310 0.3626	0.2669 0.3995	0.2869	0.3452	0.3677	Lin1	-0.085	0.3855							0.9970		0.9900
trans-1,2-Dichloroethene	0.2561 0.2786	0.2554 0.3008	0.2689	0.3003	0.3042	Ave		0.2806				7.6		15.0			
Hexane	1.4407 1.9966	1.5143 2.0690	1.7651	2.1677	2.2418	Lin1	-0.254	2.0734							0.9980		0.9900
Vinyl acetate	0.1176 0.1957	0.1325 0.2091	0.1414	0.1672	0.1998	Lin1	-0.101	0.2037							0.9970		0.9900
1,1-Dichloroethane	0.4608 0.4762	0.4628 0.4968	0.4782	0.5297	0.5209	Ave		0.4893			0.1000	5.6		15.0			
Methyl ethyl ketone (MEK)	++++ 0.0384	0.0251 0.0393	0.0428	0.0402	0.0420	Lin1	-0.020	0.0395							0.9980		0.9900
sec-Butyl Alcohol	0.7808 0.9659	0.7881 1.0232	0.8161	0.8748	0.9508	Ave		0.8857				10.8		15.0			
cis-1,2-Dichloroethene	0.2486 0.2870	0.2461 0.3068	0.2726	0.3033	0.3067	Ave		0.2816				9.4		15.0			
2,2-Dichloropropane	0.3417 0.3728	0.3207 0.4063	0.3334	0.3842	0.3893	Ave		0.3641				8.8		15.0			
Chlorobromomethane	0.0826 0.0976	0.0918 0.1073	0.0941	0.0993	0.1053	Ave		0.0969				8.7		15.0			
Chloroform	0.4272 0.4345	0.4297 0.4626	0.4291	0.4713	0.4742	Ave		0.4469				4.8		30.0			
Tetrahydrofuran	++++ 0.0203	0.0132 0.0224	0.0164	0.0194	0.0206	Lin2	-0.017	0.0214							0.9980		0.9900
Isobutyl alcohol	0.3382 0.4421	0.4341 0.4363	0.4920	0.4705	0.4973	Ave		0.4444				12.1		15.0			
1,1,1-Trichloroethane	0.3708 0.4139	0.3595 0.4471	0.3802	0.4296	0.4451	Ave		0.4066				8.9		15.0			
Cyclohexane	0.3186 0.5044	0.3660 0.5259	0.4353	0.5323	0.5473	Lin2	-0.065	0.5097							0.9900		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.2737 0.3981	0.3179 0.4216	0.3708	0.4233	0.4321	Lin2	-0.045	0.4104							0.9950		0.9900
Carbon tetrachloride	0.3537 0.3800	0.3314 0.4122	0.3569	0.3999	0.4021	Ave		0.3766				8.0		15.0			
1,2-Dichloroethane	++++ 0.2229	0.2162 0.2359	0.2246	0.2435	0.2443	Ave		0.2312				5.0		15.0			
Benzene	0.9325 1.0398	1.0082 1.0737	1.0378	1.1415	1.1503	Ave		1.0548				7.2		15.0			
n-Heptane	0.2595 0.4264	0.3091 0.4331	0.3787	0.4581	0.4738	Lin2	-0.059	0.4348							0.9900		0.9900
Trichloroethene	0.2326 0.2752	0.2397 0.3011	0.2533	0.2839	0.2884	Ave		0.2677				9.7		15.0			
2-Pentanone	++++ 0.0510	0.0340 0.0546	0.0374	0.0470	0.0502	Lin2	-0.081	0.0520							0.9960		0.9900
1,2-Dichloropropane	0.2174 0.2389	0.2267 0.2554	0.2319	0.2499	0.2570	Ave		0.2396				6.3		30.0			
Methylcyclohexane	0.3226 0.4030	0.3258 0.4210	0.3743	0.4390	0.4427	Ave		0.3898				12.9		15.0			
1,4-Dioxane	++++ 0.0009	0.0005 0.0010	0.0007	0.0009	0.0010	Lin2	-0.010	0.0010							0.9990		0.9900
Dibromomethane	0.0799 0.0930	0.0809 0.1009	0.0879	0.0996	0.0983	Ave		0.0915				9.6		15.0			
Dichlorobromomethane	0.2133 0.2732	0.2421 0.2956	0.2472	0.2744	0.2845	Ave		0.2615				10.9		15.0			
2-Chloroethyl vinyl ether	++++ 0.0631	0.0311 0.0757	0.0377	0.0475	0.0598	Lin1	-0.063	0.0718							0.9910		0.9900
cis-1,3-Dichloropropene	0.8612 1.4373	0.9946 1.5599	1.0703	1.3253	1.4498	Lin1	-0.364	1.5123							0.9970		0.9900
4-Methyl-2-pentanone (MIBK)	0.0382 0.0744	0.0477 0.0761	0.0545	0.0689	0.0750	Lin1	-0.073	0.0756							0.9990		0.9900
Toluene	++++ 1.0753	0.9210 1.0869	1.0263	1.1568	1.1932	Ave		1.0766				9.0		30.0			
Ethyl methacrylate	0.2325 0.6417	0.3549 0.7108	0.3853	0.5283	0.6020	Lin1	-0.250	0.6787							0.9940		0.9900
trans-1,3-Dichloropropene	0.1402 0.2418	0.1627 0.2621	0.1863	0.2235	0.2447	Lin1	-0.062	0.2544							0.9980		0.9900
1,1,2-Trichloroethane	0.1194 0.1189	0.1121 0.1291	0.1142	0.1247	0.1298	Ave		0.1212				5.7		15.0			
Methyl n-butyl ketone (MNBK)	0.0879 0.2213	0.1355 0.2280	0.1512	0.1897	0.2240	Lin1	-0.264	0.2256							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichloropropane	0.8709 1.0663	0.9378 1.1148	1.0254	1.1468	1.1668	Ave		1.0470				10.5		15.0			
Tetrachloroethene	0.8959 1.0273	0.9298 1.1120	1.0094	1.0921	1.1080	Ave		1.0249				8.4		15.0			
Chlorodibromomethane	0.4522 0.6893	0.5591 0.7691	0.5604	0.6537	0.6894	Lin2	-0.077	0.6814							0.9920		0.9900
1,2-Dibromoethane	0.3371 0.5087	0.4245 0.5549	0.4432	0.4983	0.5309	Lin2	-0.058	0.5137							0.9960		0.9900
1-Chlorohexane	0.8231 1.7502	0.9536 1.8874	1.2335	1.6755	1.8695	Lin1	-0.530	1.8486							0.9970		0.9900
Chlorobenzene	3.0781 3.0979	3.1313 3.2203	3.1194	3.3092	3.3466	Ave		3.1861			0.3000	3.4		15.0			
1,1,1,2-Tetrachloroethane	0.8319 1.0532	0.9225 1.1448	0.8956	1.0269	1.0707	Ave		0.9922				11.2		15.0			
Ethylbenzene	1.4128 1.9509	1.6012 2.0316	1.7506	1.9558	2.0476	Ave		1.8215				13.3		30.0			
m-Xylene & p-Xylene	1.5214 2.2701	1.7952 2.4112	2.0102	2.3139	2.4343	Lin2	-0.260	2.3009							0.9950		0.9900
o-Xylene	1.2304 2.2127	1.5809 2.2620	1.8428	2.1837	2.3409	Lin2	-0.318	2.1857							0.9930		0.9900
Styrene	1.4921 3.3493	2.0192 3.4107	2.5111	3.0677	3.4019	Lin1	-0.876	3.3989							0.9990		0.9900
Bromoform	++++ 0.3166	0.2344 0.3695	0.2492	0.2810	0.3076	Lin2	-0.109	0.3266			0.1000				0.9900		0.9900
Isopropylbenzene	2.1901 3.8520	2.6242 3.7969	3.2614	3.9852	4.1569	Lin1	-0.621	3.8690							0.9980		0.9900
Cyclohexanone	0.0048 0.0116	0.0059 0.0123	0.0072	0.0088	0.0109	Lin1	-0.168	0.0119							0.9950		0.9900
1,1,2,2-Tetrachloroethane	0.3224 0.3724	0.3591 0.3932	0.3534	0.4032	0.3979	Ave		0.3717			0.3000	7.8		15.0			
trans-1,4-Dichloro-2-butene	++++ 0.0896	0.0656 0.0965	0.0702	0.0854	0.0896	Ave		0.0828				14.7		15.0			
1,2,3-Trichloropropane	++++ 0.1041	0.1052 0.1133	0.0997	0.1107	0.1104	Ave		0.1072				4.7		15.0			
Bromobenzene	0.5734 0.8094	0.6833 0.8605	0.7440	0.8538	0.8463	Ave		0.7673				14.0		15.0			
N-Propylbenzene	0.5689 1.1792	0.8373 1.2580	0.9969	1.2066	1.2301	Lin2	-0.202	1.1891							0.9930		0.9900
1,3,5-Trimethylbenzene	1.6609 3.3491	2.4122 3.3047	2.8692	3.4295	3.5089	Lin2	-0.539	3.3324							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	0.5979 0.9794	0.8168 1.0172	0.9190	1.0184	1.0213	Lin2	-0.127	1.0043							0.9980		0.9900
4-Chlorotoluene	0.6029 0.9441	0.7762 1.0128	0.8505	0.9821	0.9869	Lin2	-0.117	0.9660							0.9970		0.9900
tert-Butylbenzene	1.6933 3.3458	2.2523 3.4630	2.7571	3.3756	3.4864	Lin2	-0.539	3.3093							0.9910		0.9900
1,2,4-Trimethylbenzene	1.6244 3.3291	2.5923 3.3506	3.0405	3.4945	3.5242	Lin2	-0.557	3.4058							0.9970		0.9900
sec-Butylbenzene	0.5056 0.9487	0.6748 1.0228	0.8011	0.9616	0.9916	Lin2	-0.148	0.9536							0.9920		0.9900
4-Isopropyltoluene	1.8421 3.7237	2.6499 3.6885	3.2839	3.9093	3.9798	Lin2	-0.617	3.7536							0.9930		0.9900
1,3-Dichlorobenzene	1.4113 1.6446	1.5802 1.7520	1.6322	1.7963	1.7533	Ave		1.6528				8.0		15.0			
1,4-Dichlorobenzene	1.6401 1.6034	1.6461 1.6837	1.6183	1.7311	1.7065	Ave		1.6613				2.8		15.0			
n-Butylbenzene	2.1506 3.5761	2.5114 3.5525	3.1134	3.7278	3.8295	Lin2	-0.477	3.5618							0.9910		0.9900
1,2-Dichlorobenzene	1.1177 1.3369	1.2167 1.4217	1.2655	1.3955	1.4059	Ave		1.3086				8.7		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0501	0.0303 0.0578	0.0298	0.0446	0.0443	Lin1	-0.040	0.0553							0.9930		0.9900
1,2,4-Trichlorobenzene	0.5176 0.9453	0.6635 1.0167	0.6756	0.8129	0.9176	Lin1	-0.258	0.9841							0.9970		0.9900
Hexachlorobutadiene	0.5911 0.7259	0.6488 0.7894	0.6680	0.7165	0.7416	Ave		0.6973				9.5		15.0			
Naphthalene	++++ 1.1434	0.5288 1.2427	0.5658	0.8596	1.0479	Lin1	-1.037	1.2178							0.9960		0.9900
1,2,3-Trichlorobenzene	0.4454 0.7306	0.5058 0.7799	0.5432	0.6702	0.7102	Lin1	-0.178	0.7584							0.9980		0.9900
Dibromofluoromethane (Surr)	++++ 0.2313	0.2281 0.2398	0.2243	0.2365	0.2396	Ave		0.2333				2.7		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.1900	0.2007 0.1900	0.1926	0.2034	0.1999	Ave		0.1961				3.0		15.0			
Toluene-d8 (Surr)	++++ 4.3852	3.8543 4.2349	4.0100	4.4718	4.6042	Ave		4.2601				6.7		15.0			
4-Bromofluorobenzene (Surr)	++++ 0.9925	0.8659 1.0146	0.9084	1.0012	1.0072	Ave		0.9650				6.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-418017/12	MS1_3162.D
Level 2	STD01 280-418017/13	MS1_3163.D
Level 3	STD02 280-418017/14	MS1_3164.D
Level 4	STD05 280-418017/15	MS1_3165.D
Level 5	ICIS 280-418017/16	MS1_3166.D
Level 6	STD30 280-418017/17	MS1_3167.D
Level 7	STD60 280-418017/18	MS1_3168.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Lin1	11817 1660037	36705 3684462	78020	284622	582952	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	14199 1521967	46272 3249895	93140	264141	523252	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	13458 1510425	44615 3148431	98763	274754	541597	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	12800 1393553	39939 2608561	83089	225000	470067	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	10727 1259501	35996 2381085	74806	202736	423484	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	26845 2843640	82650 6244694	175971	454838	937001	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	22748 2399338	68096 5445010	147403	403924	798755	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	5812 631065	15494 1457838	32752	95663	208840	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	4649 727754	17076 1724542	39226	113461	255239	3.00 300	10.00 600	20.0	50.0	100.0
Acetone	FB	Lin2	8503 419030	17326 909011	30352	70410	147003	1.20 120	4.00 240	8.00	20.0	40.0
Freon 113	FB	Ave	8517 1086581	27683 2481997	64405	178664	371261	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	8136 1294181	30574 3015042	68492	203929	437205	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	14942 2213072	52501 5111951	116818	335845	736537	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	++++ 555746	16734 1266015	33552	85944	190550	++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	14478 2113009	48698 4604888	118558	339558	735171	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	43285 5448169	143757 12107591	310462	908156	1883192	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	TBAd 9	Ave	++++ 318465	6376 771955	15316	44370	99800	++++ 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	12563 1236793	37582 2802806	77079	204970	423125	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	10326 1515413	38007 3419452	83812	239747	510216	3.00 300	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Lin1	9803 1879957	38874 4430282	87689	268169	599499	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	10864 1444401	37203 3335710	82211	233269	495991	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Lin1	12459 2241034	45627 5027354	114250	358495	781763	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Lin1	9981 2029689	38586 4637825	86472	259808	651521	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	19551 2469065	67412 5509586	146174	411516	849197	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Lin1	++++ 795652	14623 1741698	52326	124833	274147	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	4059 757708	14132 1824558	31407	94890	218685	9.00 900	30.0 1800	60.0	150	300
cis-1,2-Dichloroethene	FB	Ave	10549 1488019	35843 3402065	83327	235636	500014	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2,2-Dichloropropane	FB	Ave	14498 1933172	46713 4505605	101915	298496	634611	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	3505 506303	13372 1189746	28751	77170	171731	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	18125 2253105	62594 5130214	131178	366144	773094	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Lin2	++++ 210801	3836 496502	10051	30197	67137	++++ 60.0	2.00 120	4.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Ave	1465 288985	6486 648382	15779	42531	95329	7.50 750	25.0 1500	50.0	125	250
1,1,1-Trichloroethane	FB	Ave	15731 2146172	52368 4958125	116217	333795	725593	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Lin2	13517 2615244	53305 5832515	133070	413522	892350	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Lin2	11614 2064088	46299 4675643	113350	328850	704478	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	15008 1970184	48268 4571075	109110	310703	655524	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	+++++ 1155820	31497 2615835	68666	189163	398223	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	39565 5391520	146852 11908328	317252	886858	1875299	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Lin2	11012 2210786	45017 4803818	115775	355862	772461	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	9871 1426859	34914 3339014	77418	220581	470244	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Lin2	+++++ 1057994	19814 2422409	45775	146071	327387	+++++ 120	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	9223 1238766	33016 2832590	70896	194183	419015	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	13689 2089772	47447 4669068	114415	341051	721679	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	+++++ 94241	1405 218993	4367	13778	31239	+++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	3392 482202	11786 1118823	26877	77373	160268	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	9050 1416458	35258 3278099	75556	213220	463862	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Lin1	+++++ 327415	4524 839270	11516	36900	97464	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Lin1	7448 1613281	29967 3790165	69277	219176	505565	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Lin1	6482 1543365	27818 3374056	66655	214071	488769	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	+++++ 5575690	134142 12054539	313720	898707	1945271	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin1	2011 720291	10693 1727057	24939	87377	209911	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin1	5949 1253504	23696 2906823	56952	173663	398918	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	5064 616462	16327 1432202	34905	96862	211595	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Lin1	3040 993678	16331 2215948	39157	125507	312480	1.20 120	4.00 240	8.00	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	7532 1196849	28255 2708709	66370	189651	406882	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	7748 1153043	28014 2701929	65336	180608	386371	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin2	3911 773696	16847 1868786	36275	108110	240401	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Lin2	2915 570974	12791 1348255	28687	82416	185145	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Lin1	7118 1964535	28733 4585971	79840	277097	651915	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	26620 3477222	94346 7824844	201915	547280	1167000	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	7194 1182098	27794 2781716	57972	169828	373371	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	12218 2189774	48245 4936476	113311	323451	714043	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Lin2	13157 2548049	54088 5858877	130119	382678	848867	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Lin2	10641 2483638	47631 5496263	119280	361139	816322	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Lin1	12904 3759391	60838 8287500	162538	507339	1186311	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin2	+++++ 355368	7062 897836	16127	46465	107261	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Lin1	27020 6345477	113763 13630243	304319	944042	2156346	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin1	1677 520210	7158 1192988	18766	57921	151535	12.0 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	3977 613514	15568 1411549	32977	95510	206414	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	+++++ 147607	2846 346485	6551	20223	46474	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	+++++ 171555	4562 406659	9303	26218	57249	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	7074 1333321	29622 3089219	69423	202253	439031	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Lin2	7019 1942494	36300 4516013	93017	285815	638093	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Lin2	20491 5516913	104573 11863525	267721	812398	1820209	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Lin2	7376 1613416	35408 3651729	85748	241243	529779	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Lin2	7438 1555175	33651 3635971	79363	232650	511930	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Lin2	20891 5511600	97640 12431872	257268	799635	1808541	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Lin2	20041 5484062	112383 12028107	283711	827803	1828170	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418017

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/11/2018 12:30 Calibration End Date: 06/11/2018 14:33 Calibration ID: 32653

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Lin2	6238 1562763	29256 3671775	74752	227777	514379	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Lin2	22726 6134076	114879 13241297	306417	926051	2064503	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	17412 2709097	68505 6289431	152301	425520	909514	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	20234 2641298	71362 6044359	151007	410076	885228	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Lin2	26532 5890940	108876 12753216	290514	883054	1986512	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	13789 2202340	52748 5103781	118084	330569	729321	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	++++ 82466	1315 207474	2780	10566	23003	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Lin1	6386 1557248	28763 3649802	63042	192556	476004	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	7293 1195723	28127 2833792	62333	169736	384679	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin1	++++ 1883529	22925 4461268	52791	203633	543606	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Lin1	5495 1203535	21929 2799746	50687	158762	368425	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 1199062	33223 2659890	68564	183742	390671	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 985146	29234 2106787	58878	157989	325953	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 4922086	116130 10290045	259558	739537	1605556	++++ 30.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 1634992	37540 3642263	84759	237169	522458	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



# Calibration

/ Dichlorodifluoromethane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

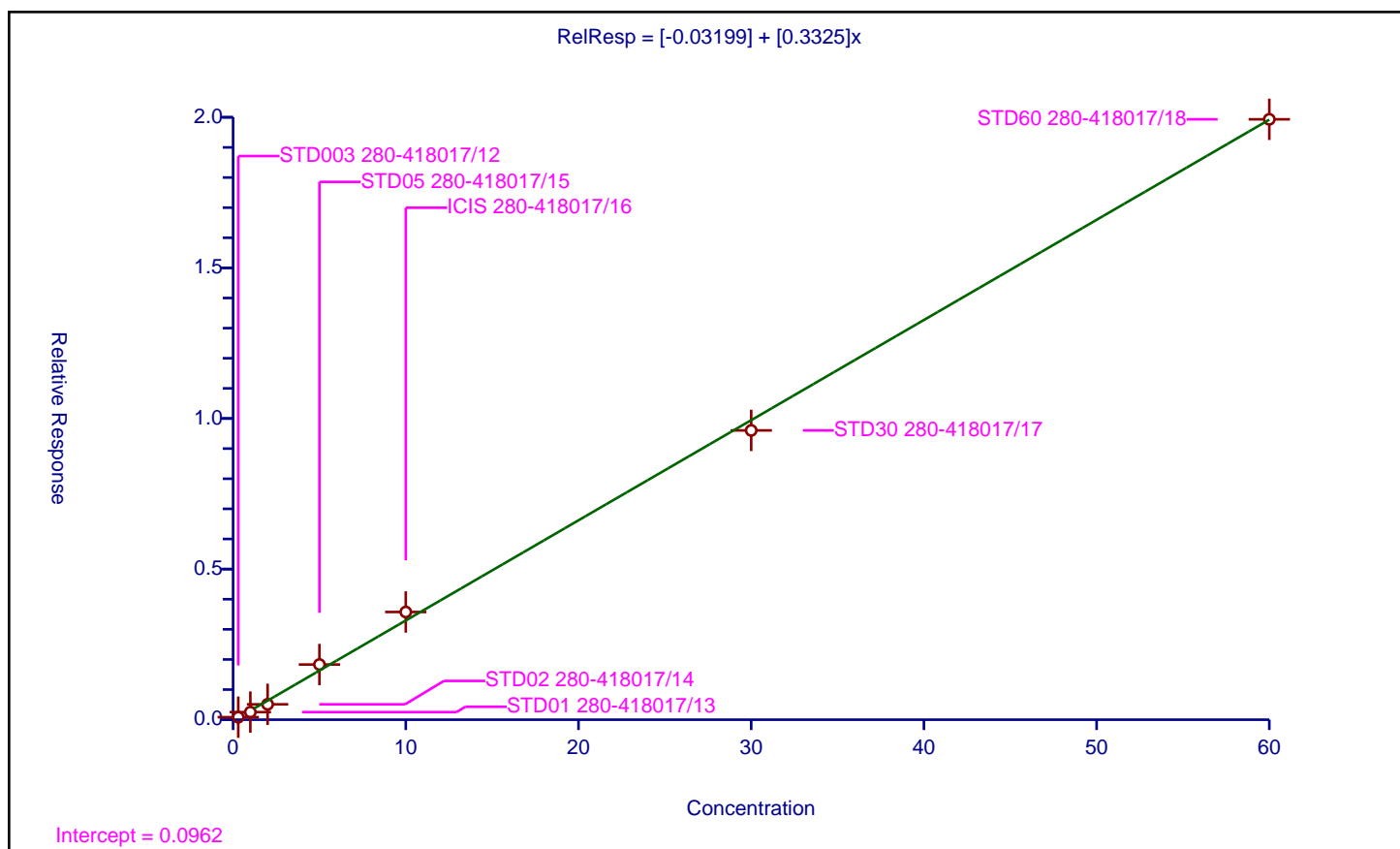
## Curve Coefficients

Intercept: -0.03199  
 Slope: 0.3325

## Error Coefficients

Standard Error: 1830000  
 Relative Standard Error: 14.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.083554	12.5	1767873.0	0.278513	Y
2	STD01 280-418017/13	1.0	0.252002	12.5	1820669.0	0.252002	Y
3	STD02 280-418017/14	2.0	0.510455	12.5	1910551.0	0.255227	Y
4	STD05 280-418017/15	5.0	1.831767	12.5	1942264.0	0.366353	Y
5	ICIS 280-418017/16	10.0	3.575698	12.5	2037896.0	0.35757	Y
6	STD30 280-418017/17	30.0	9.604779	12.5	2160431.0	0.320159	Y
7	STD60 280-418017/18	60.0	19.932759	12.5	2310557.0	0.332213	Y





# Calibration

/ Chloromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

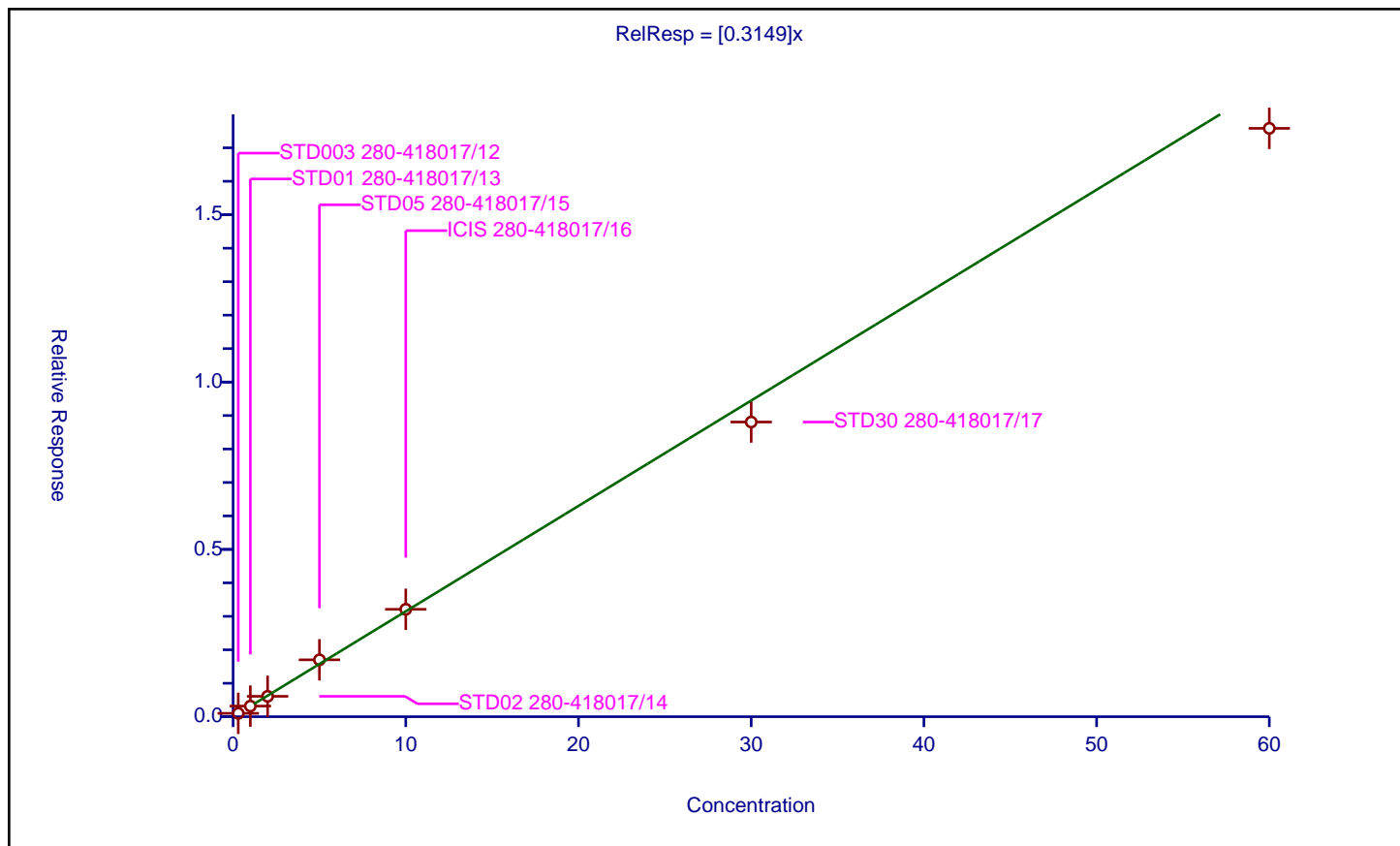
## Curve Coefficients

Intercept: 0  
 Slope: 0.3149

## Error Coefficients

Standard Error: 1490000  
 Relative Standard Error: 5.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.100396	12.5	1767873.0	0.334654	Y
2	STD01 280-418017/13	1.0	0.317685	12.5	1820669.0	0.317685	Y
3	STD02 280-418017/14	2.0	0.609379	12.5	1910551.0	0.30469	Y
4	STD05 280-418017/15	5.0	1.699956	12.5	1942264.0	0.339991	Y
5	ICIS 280-418017/16	10.0	3.209511	12.5	2037896.0	0.320951	Y
6	STD30 280-418017/17	30.0	8.805922	12.5	2160431.0	0.293531	Y
7	STD60 280-418017/18	60.0	17.581772	12.5	2310557.0	0.29303	Y





# Calibration

/ Vinyl chloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

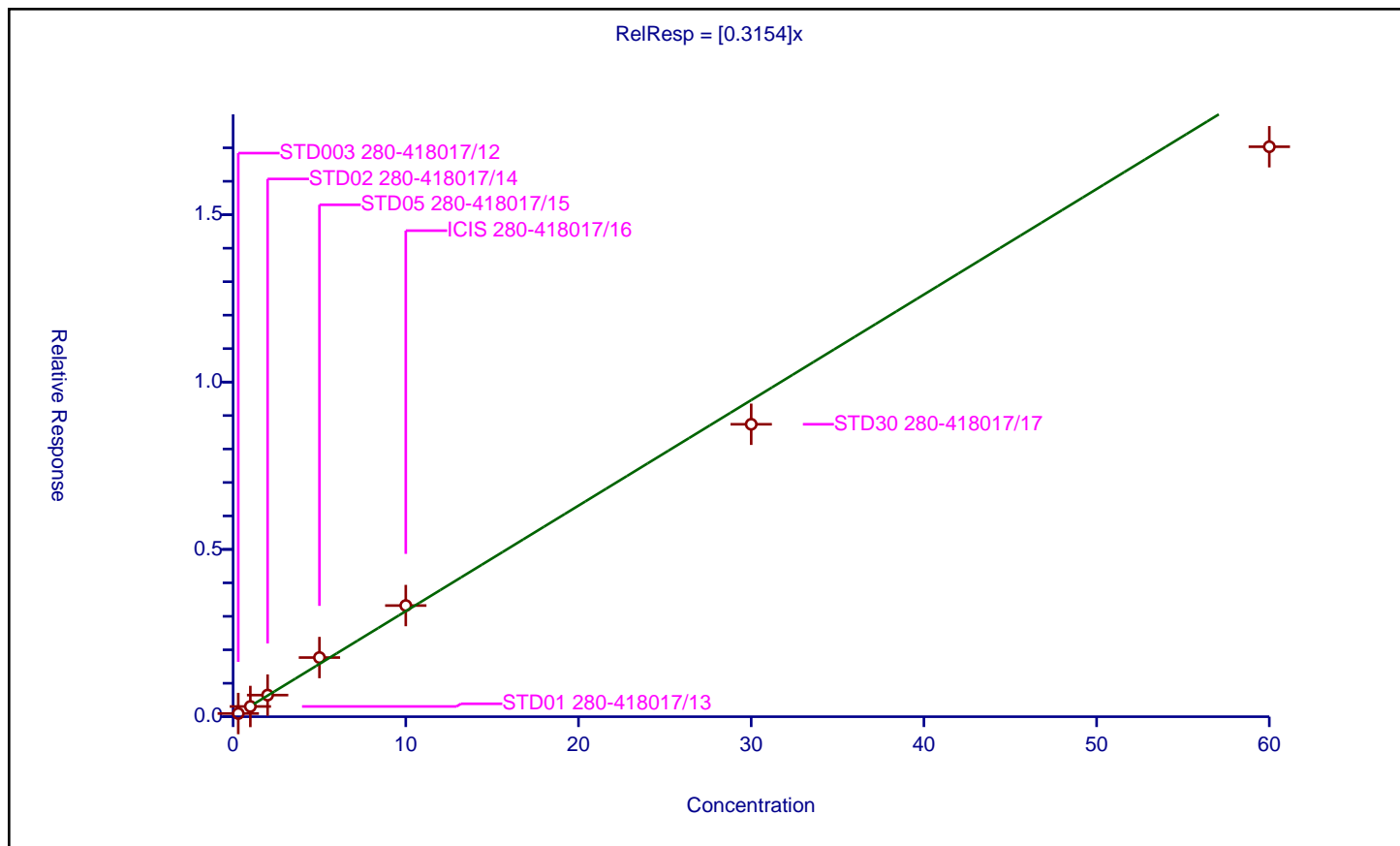
## Curve Coefficients

Intercept: 0  
 Slope: 0.3154

## Error Coefficients

Standard Error: 1450000  
 Relative Standard Error: 7.6  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.095157	12.5	1767873.0	0.317189	Y
2	STD01 280-418017/13	1.0	0.306309	12.5	1820669.0	0.306309	Y
3	STD02 280-418017/14	2.0	0.646168	12.5	1910551.0	0.323084	Y
4	STD05 280-418017/15	5.0	1.768259	12.5	1942264.0	0.353652	Y
5	ICIS 280-418017/16	10.0	3.322035	12.5	2037896.0	0.332204	Y
6	STD30 280-418017/17	30.0	8.739142	12.5	2160431.0	0.291305	Y
7	STD60 280-418017/18	60.0	17.032857	12.5	2310557.0	0.283881	Y





## Calibration

/ Bromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

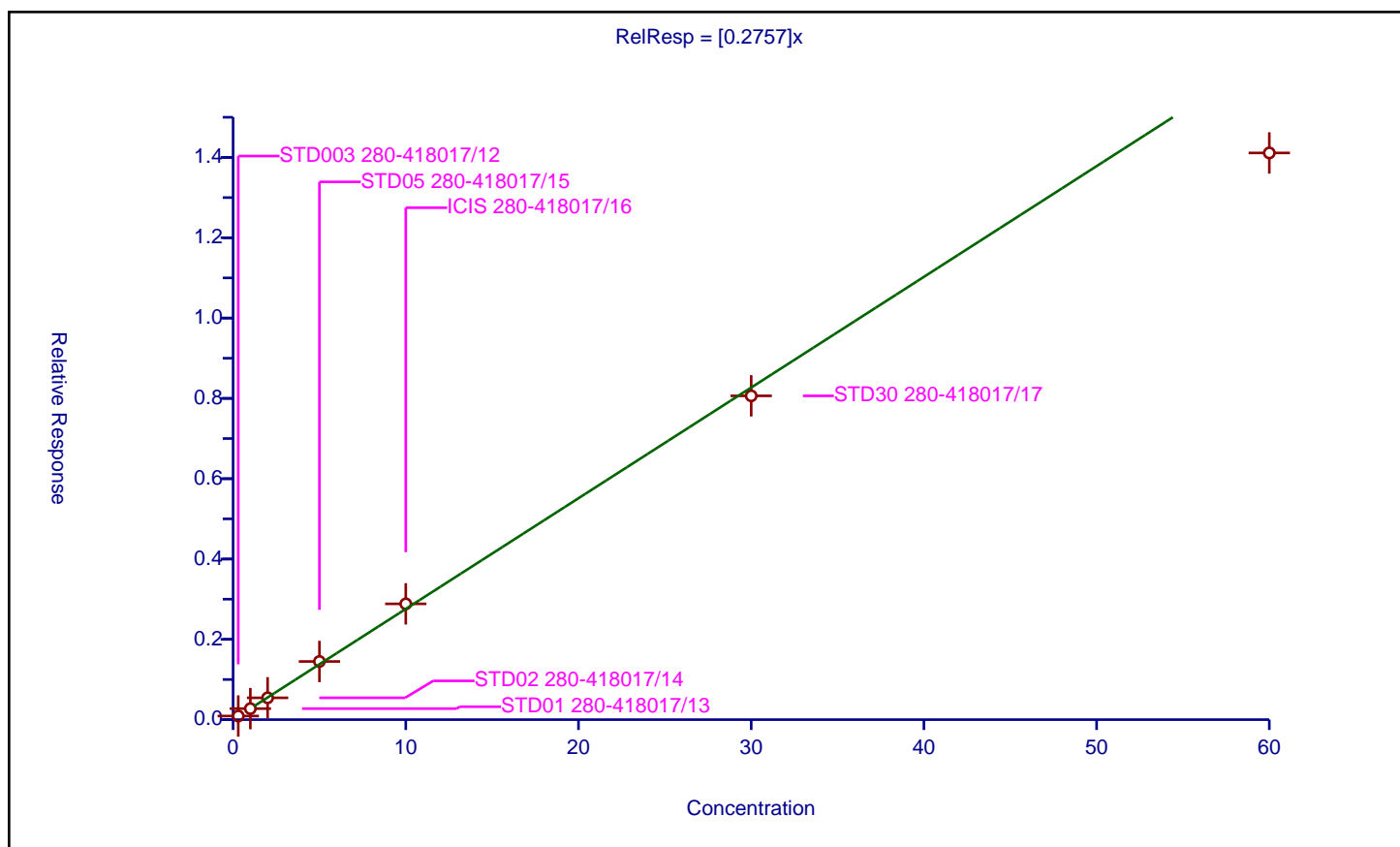
### Curve Coefficients

Intercept: 0  
 Slope: 0.2757

### Error Coefficients

Standard Error: 1230000  
 Relative Standard Error: 7.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.090504	12.5	1767873.0	0.301681	Y
2	STD01 280-418017/13	1.0	0.274206	12.5	1820669.0	0.274206	Y
3	STD02 280-418017/14	2.0	0.543619	12.5	1910551.0	0.27181	Y
4	STD05 280-418017/15	5.0	1.448052	12.5	1942264.0	0.28961	Y
5	ICIS 280-418017/16	10.0	2.883286	12.5	2037896.0	0.288329	Y
6	STD30 280-418017/17	30.0	8.062934	12.5	2160431.0	0.268764	Y
7	STD60 280-418017/18	60.0	14.112187	12.5	2310557.0	0.235203	Y





# Calibration

/ Chloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

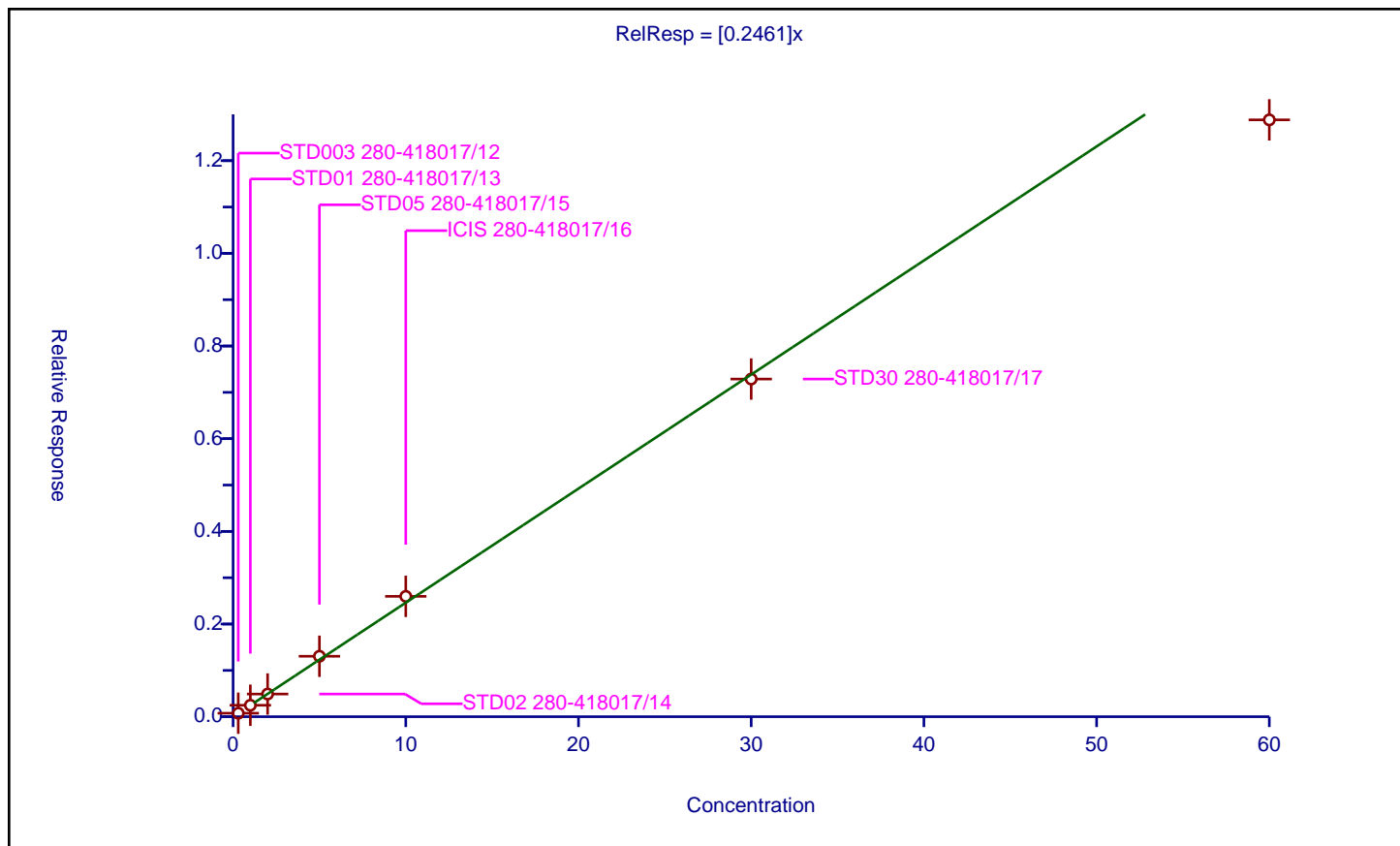
## Curve Coefficients

Intercept: 0  
 Slope: 0.2461

## Error Coefficients

Standard Error: 1120000  
 Relative Standard Error: 6.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.075847	12.5	1767873.0	0.252823	Y
2	STD01 280-418017/13	1.0	0.247134	12.5	1820669.0	0.247134	Y
3	STD02 280-418017/14	2.0	0.489427	12.5	1910551.0	0.244713	Y
4	STD05 280-418017/15	5.0	1.304766	12.5	1942264.0	0.260953	Y
5	ICIS 280-418017/16	10.0	2.597556	12.5	2037896.0	0.259756	Y
6	STD30 280-418017/17	30.0	7.287325	12.5	2160431.0	0.242911	Y
7	STD60 280-418017/18	60.0	12.881553	12.5	2310557.0	0.214693	Y





# Calibration

/ Dichlorofluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

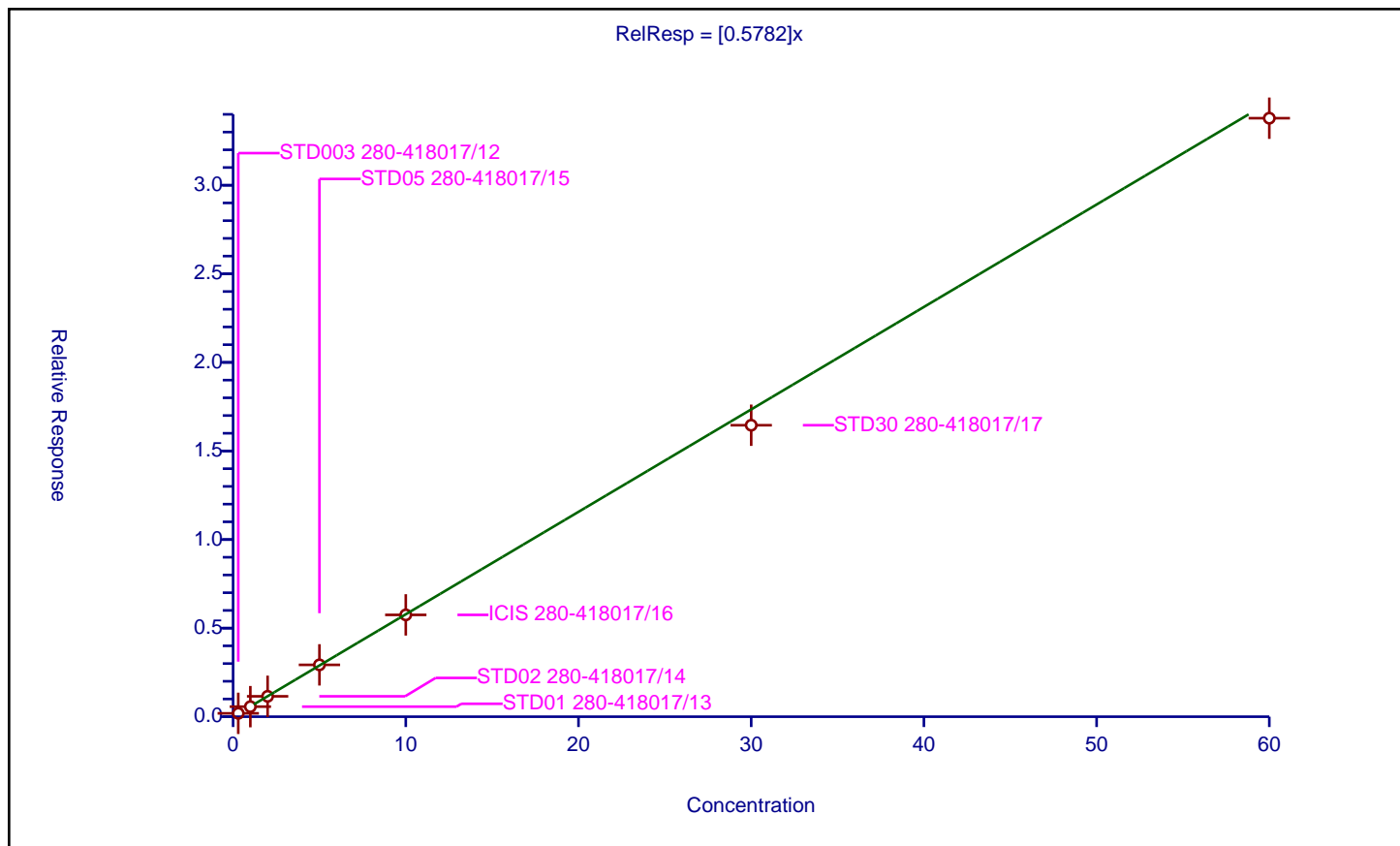
## Curve Coefficients

Intercept: 0  
 Slope: 0.5782

## Error Coefficients

Standard Error: 2830000  
 Relative Standard Error: 4.6  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.189811	12.5	1767873.0	0.632705	Y
2	STD01 280-418017/13	1.0	0.567443	12.5	1820669.0	0.567443	Y
3	STD02 280-418017/14	2.0	1.151311	12.5	1910551.0	0.575655	Y
4	STD05 280-418017/15	5.0	2.927241	12.5	1942264.0	0.585448	Y
5	ICIS 280-418017/16	10.0	5.747355	12.5	2037896.0	0.574736	Y
6	STD30 280-418017/17	30.0	16.452967	12.5	2160431.0	0.548432	Y
7	STD60 280-418017/18	60.0	33.783488	12.5	2310557.0	0.563058	Y





# Calibration

/ Trichlorofluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

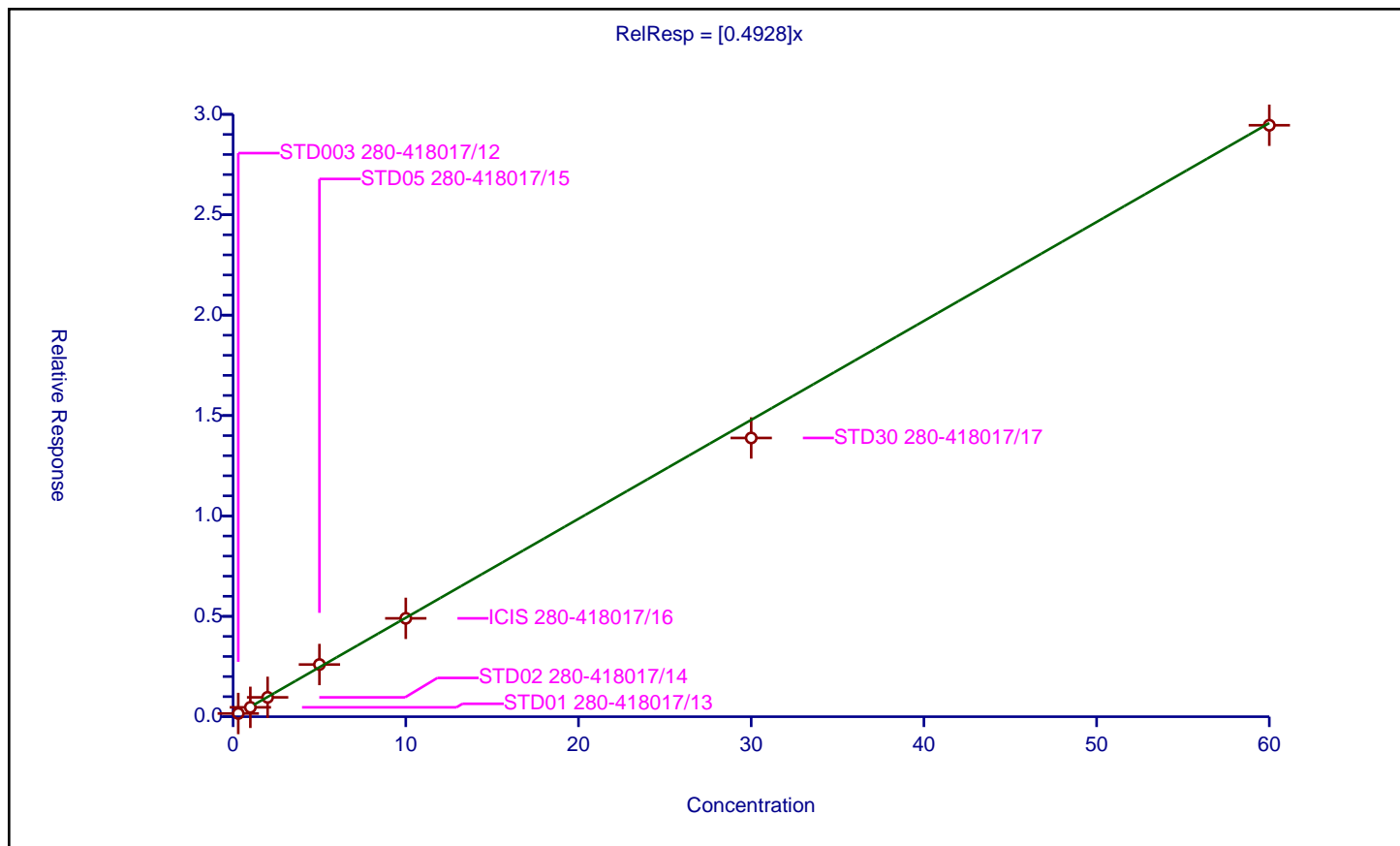
## Curve Coefficients

Intercept: 0  
 Slope: 0.4928

## Error Coefficients

Standard Error: 2460000  
 Relative Standard Error: 5.4  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.160843	12.5	1767873.0	0.536143	Y
2	STD01 280-418017/13	1.0	0.46752	12.5	1820669.0	0.46752	Y
3	STD02 280-418017/14	2.0	0.964401	12.5	1910551.0	0.482201	Y
4	STD05 280-418017/15	5.0	2.599569	12.5	1942264.0	0.519914	Y
5	ICIS 280-418017/16	10.0	4.899385	12.5	2037896.0	0.489939	Y
6	STD30 280-418017/17	30.0	13.882288	12.5	2160431.0	0.462743	Y
7	STD60 280-418017/18	60.0	29.457237	12.5	2310557.0	0.490954	Y





## Calibration

/ Ethyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

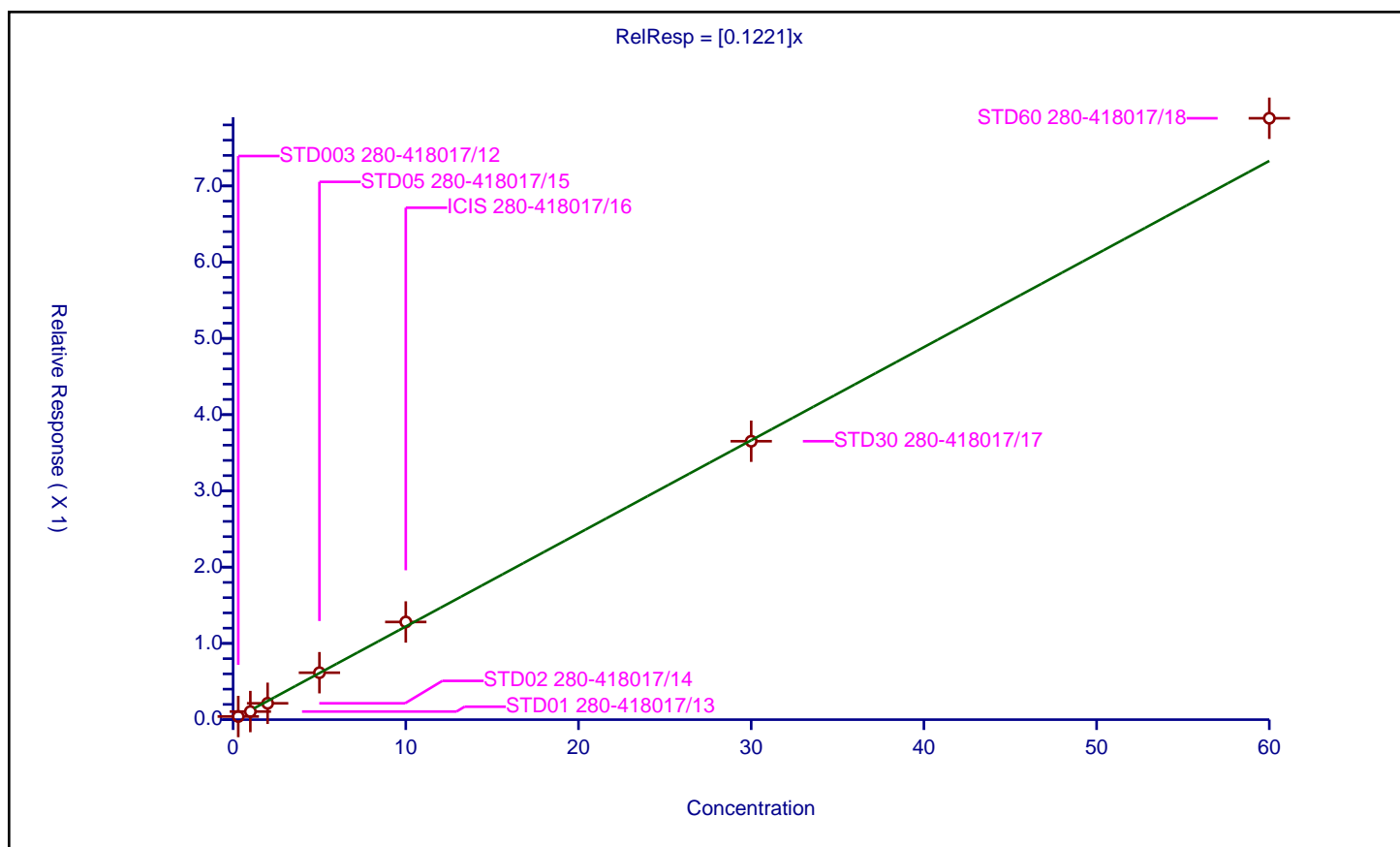
### Curve Coefficients

Intercept: 0  
 Slope: 0.1221

### Error Coefficients

Standard Error: 655000  
 Relative Standard Error: 9.6  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.041095	12.5	1767873.0	0.136982	Y
2	STD01 280-418017/13	1.0	0.106376	12.5	1820669.0	0.106376	Y
3	STD02 280-418017/14	2.0	0.214284	12.5	1910551.0	0.107142	Y
4	STD05 280-418017/15	5.0	0.615667	12.5	1942264.0	0.123133	Y
5	ICIS 280-418017/16	10.0	1.280978	12.5	2037896.0	0.128098	Y
6	STD30 280-418017/17	30.0	3.651268	12.5	2160431.0	0.121709	Y
7	STD60 280-418017/18	60.0	7.886832	12.5	2310557.0	0.131447	Y





## Calibration

/ Acrolein

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

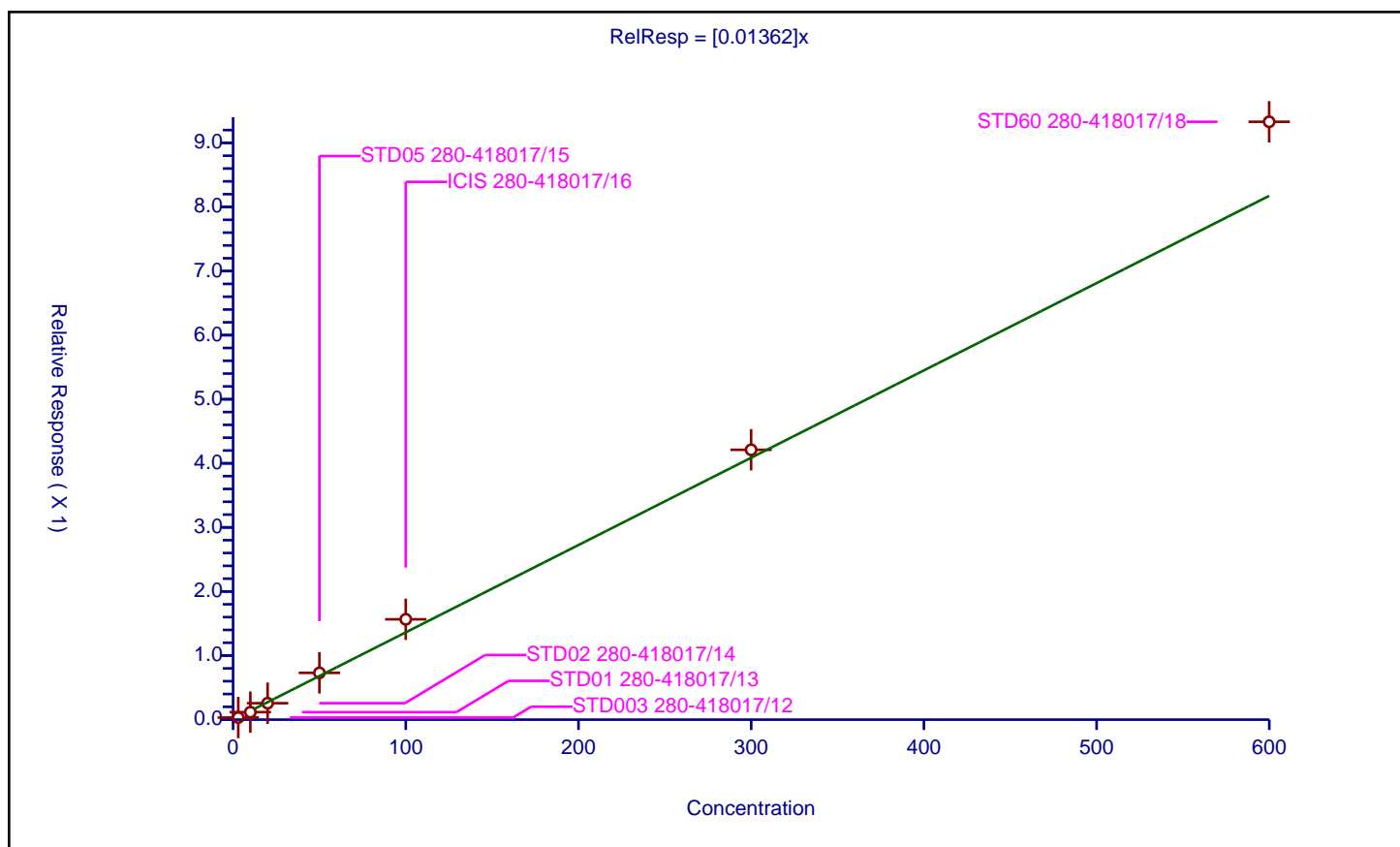
## Curve Coefficients

Intercept: 0  
Slope: 0.01362

## Error Coefficients

Standard Error: 773000  
Relative Standard Error: 13.5  
Correlation Coefficient: 0.995  
Coefficient of Determination (Adjusted): 0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	2.999531	0.032871	12.5	1767873.0	0.010959	Y
2	STD01 280-418017/13	9.998438	0.117237	12.5	1820669.0	0.011726	Y
3	STD02 280-418017/14	19.996875	0.256641	12.5	1910551.0	0.012834	Y
4	STD05 280-418017/15	49.992188	0.730211	12.5	1942264.0	0.014607	Y
5	ICIS 280-418017/16	99.984375	1.565579	12.5	2037896.0	0.015658	Y
6	STD30 280-418017/17	299.953125	4.210699	12.5	2160431.0	0.014038	Y
7	STD60 280-418017/18	599.90625	9.329688	12.5	2310557.0	0.015552	Y





# Calibration

/ Acetone

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

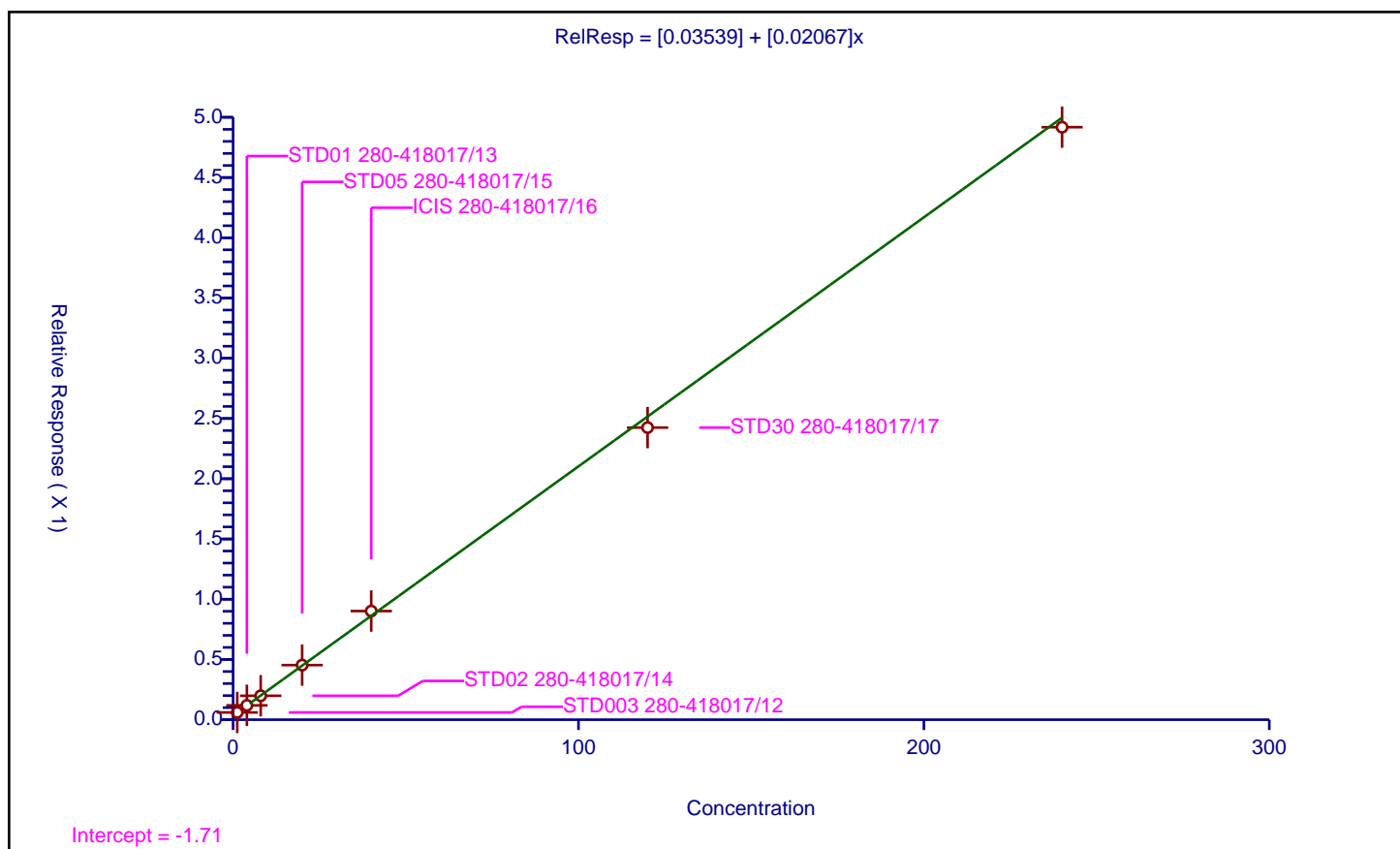
## Curve Coefficients

Intercept: 0.03539  
 Slope: 0.02067

## Error Coefficients

Standard Error: 454000  
 Relative Standard Error: 2.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	1.2	0.060122	12.5	1767873.0	0.050101	Y
2	STD01 280-418017/13	4.0	0.118954	12.5	1820669.0	0.029738	Y
3	STD02 280-418017/14	8.0	0.198581	12.5	1910551.0	0.024823	Y
4	STD05 280-418017/15	20.0	0.453144	12.5	1942264.0	0.022657	Y
5	ICIS 280-418017/16	40.0	0.901684	12.5	2037896.0	0.022542	Y
6	STD30 280-418017/17	120.0	2.424458	12.5	2160431.0	0.020204	Y
7	STD60 280-418017/18	240.0	4.917705	12.5	2310557.0	0.02049	Y





# Calibration

/ 1,1,2-Trichloro-1,2,2-trifluoroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

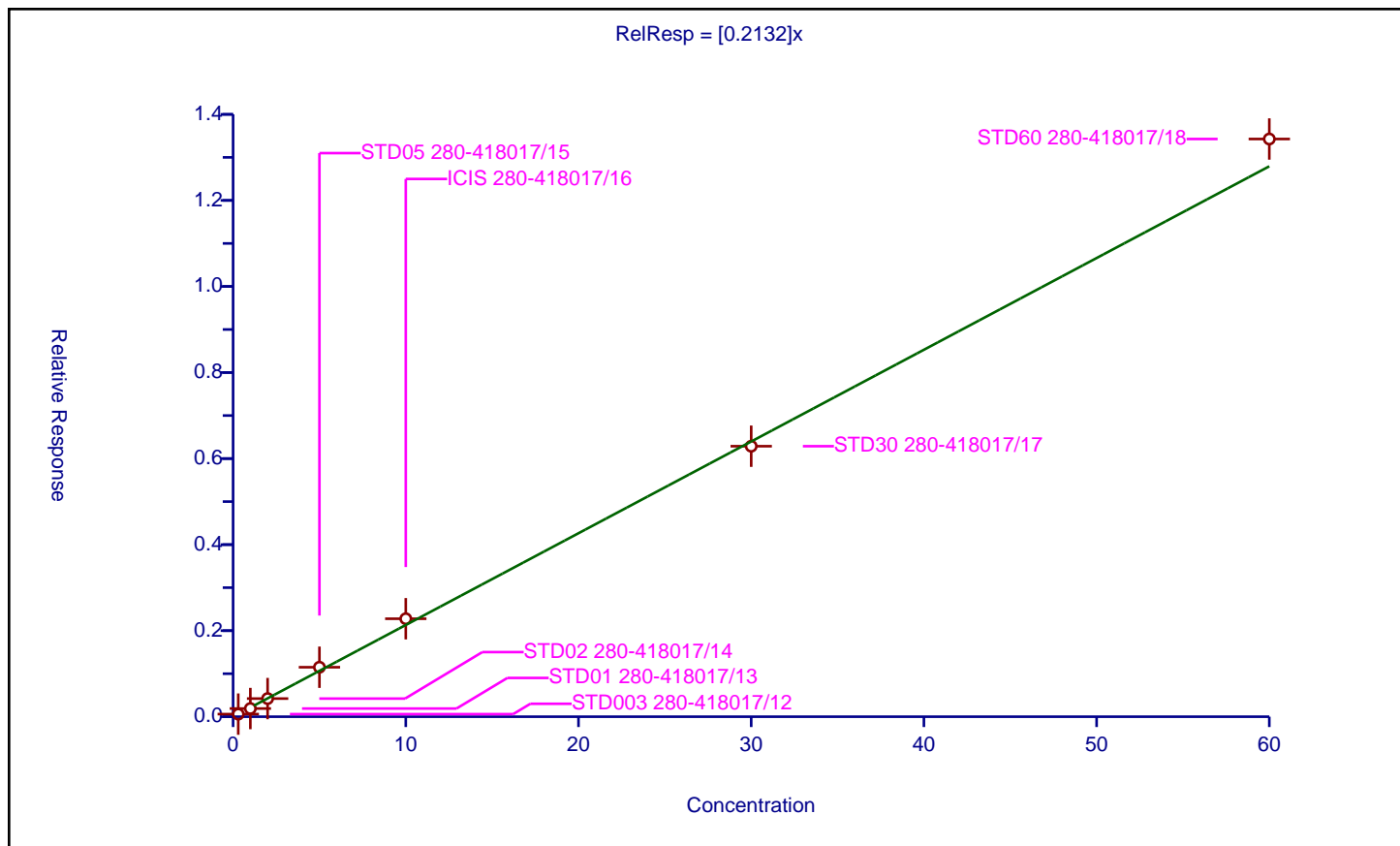
## Curve Coefficients

Intercept: 0  
 Slope: 0.2132

## Error Coefficients

Standard Error: 1120000  
 Relative Standard Error: 6.9  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.060221	12.5	1767873.0	0.200736	Y
2	STD01 280-418017/13	1.0	0.190061	12.5	1820669.0	0.190061	Y
3	STD02 280-418017/14	2.0	0.421377	12.5	1910551.0	0.210689	Y
4	STD05 280-418017/15	5.0	1.149844	12.5	1942264.0	0.229969	Y
5	ICIS 280-418017/16	10.0	2.277232	12.5	2037896.0	0.227723	Y
6	STD30 280-418017/17	30.0	6.28683	12.5	2160431.0	0.209561	Y
7	STD60 280-418017/18	60.0	13.427482	12.5	2310557.0	0.223791	Y





# Calibration

/ 1,1-Dichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

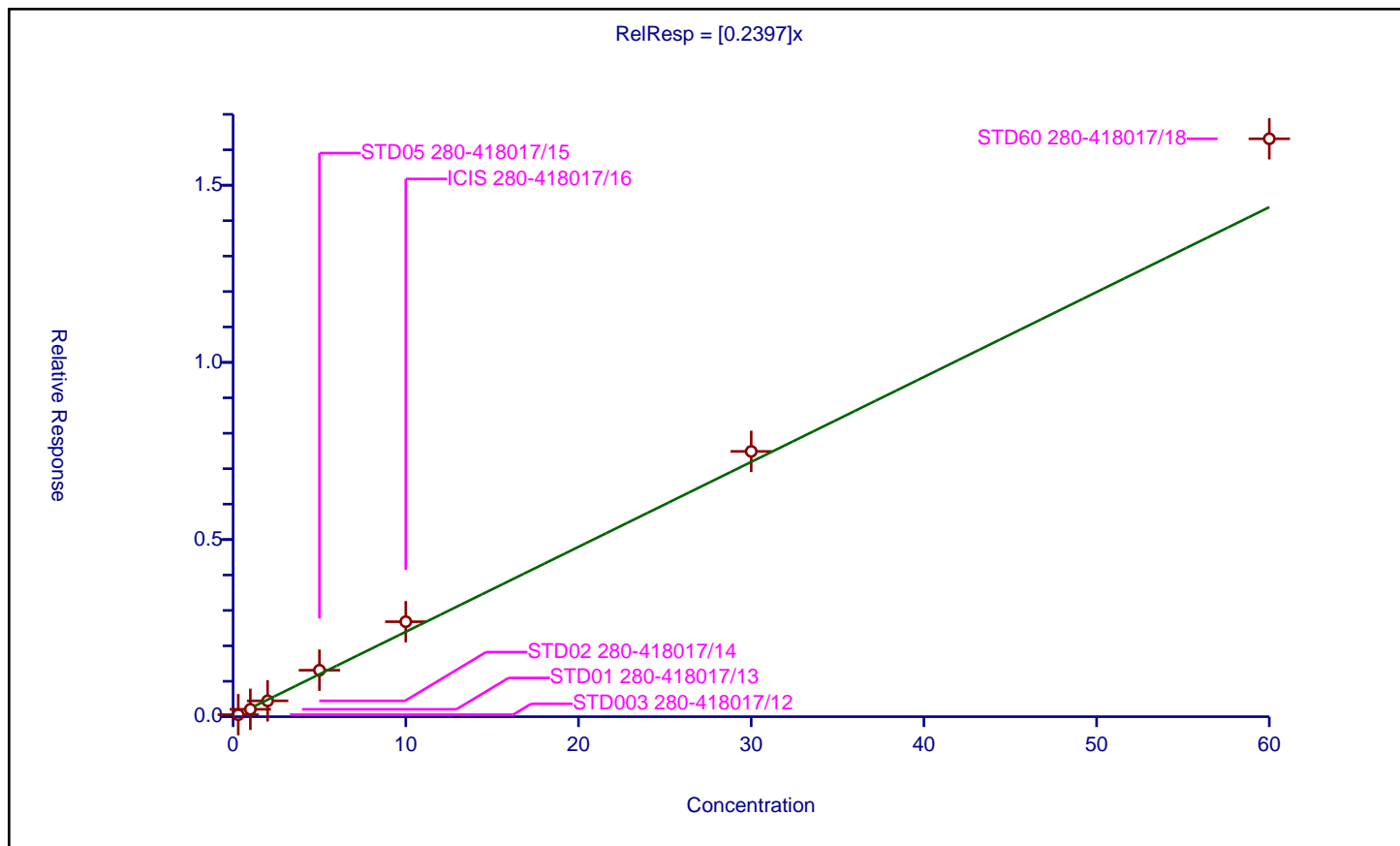
## Curve Coefficients

Intercept: 0  
 Slope: 0.2397

## Error Coefficients

Standard Error: 1350000  
 Relative Standard Error: 13.1  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.982

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.057527	12.5	1767873.0	0.191756	Y
2	STD01 280-418017/13	1.0	0.209909	12.5	1820669.0	0.209909	Y
3	STD02 280-418017/14	2.0	0.448117	12.5	1910551.0	0.224058	Y
4	STD05 280-418017/15	5.0	1.312444	12.5	1942264.0	0.262489	Y
5	ICIS 280-418017/16	10.0	2.681718	12.5	2037896.0	0.268172	Y
6	STD30 280-418017/17	30.0	7.487979	12.5	2160431.0	0.249599	Y
7	STD60 280-418017/18	60.0	16.311229	12.5	2310557.0	0.271854	Y





## Calibration

/ Iodomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

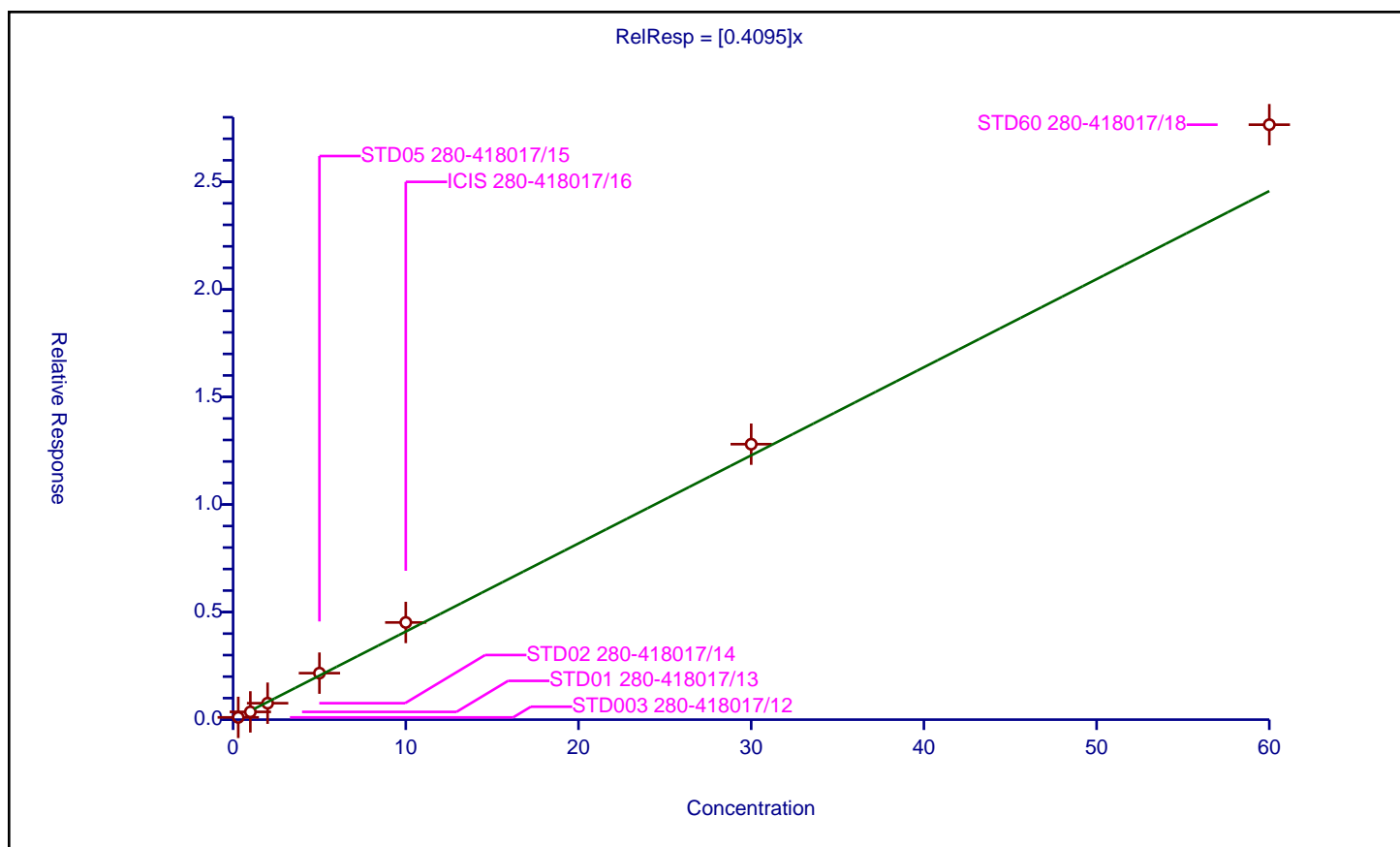
### Curve Coefficients

Intercept: 0  
 Slope: 0.4095

### Error Coefficients

Standard Error: 2300000  
 Relative Standard Error: 10.8  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.10565	12.5	1767873.0	0.352165	Y
2	STD01 280-418017/13	1.0	0.360451	12.5	1820669.0	0.360451	Y
3	STD02 280-418017/14	2.0	0.764295	12.5	1910551.0	0.382148	Y
4	STD05 280-418017/15	5.0	2.161427	12.5	1942264.0	0.432285	Y
5	ICIS 280-418017/16	10.0	4.517754	12.5	2037896.0	0.451775	Y
6	STD30 280-418017/17	30.0	12.804575	12.5	2160431.0	0.426819	Y
7	STD60 280-418017/18	60.0	27.655404	12.5	2310557.0	0.460923	Y





## Calibration

/ Methyl acetate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

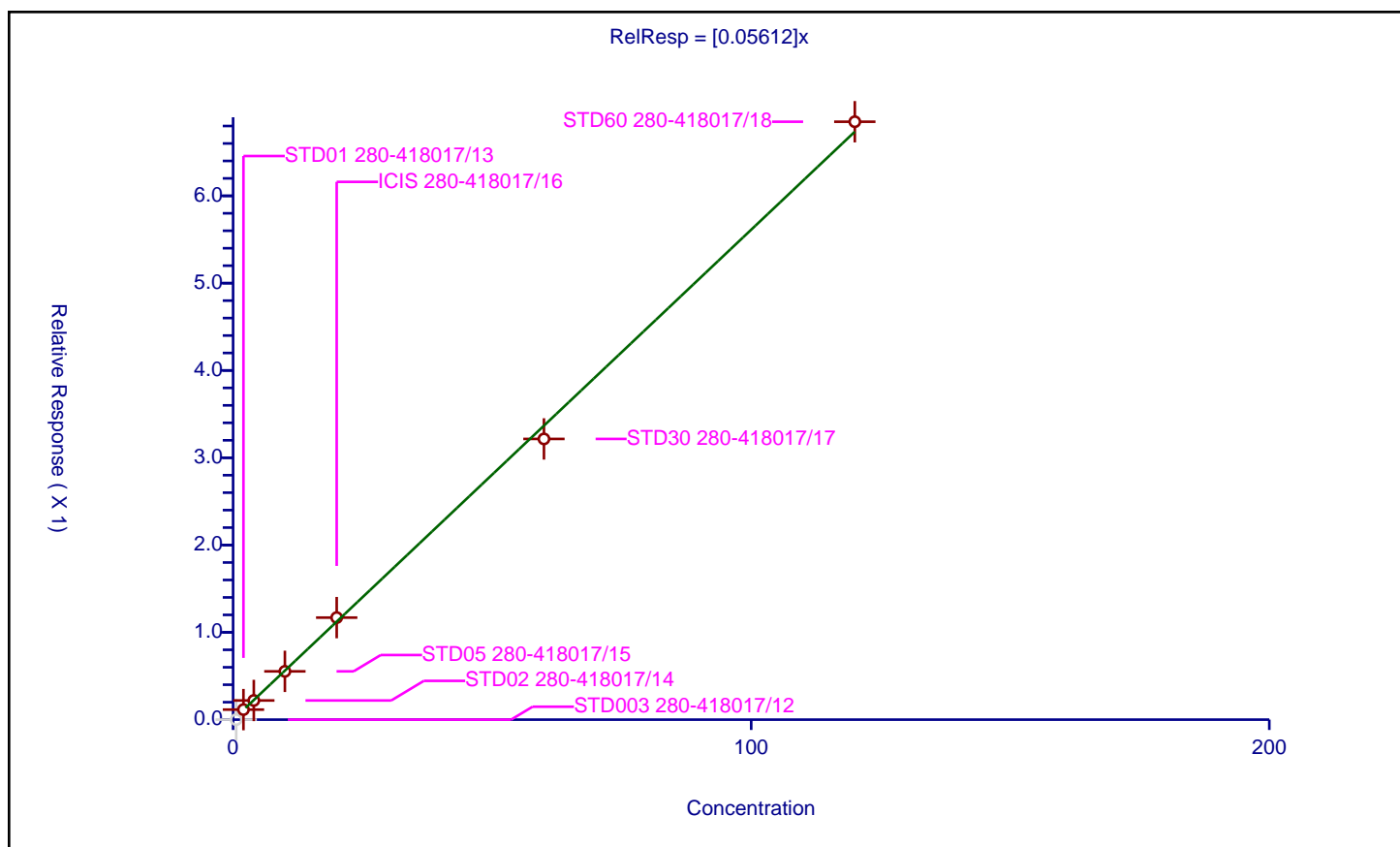
### Curve Coefficients

Intercept: 0  
 Slope: 0.05612

### Error Coefficients

Standard Error: 626000  
 Relative Standard Error: 3.2  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.6	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	2.0	0.114889	12.5	1820669.0	0.057445	Y
3	STD02 280-418017/14	4.0	0.219518	12.5	1910551.0	0.054879	Y
4	STD05 280-418017/15	10.0	0.553117	12.5	1942264.0	0.055312	Y
5	ICIS 280-418017/16	20.0	1.168791	12.5	2037896.0	0.05844	Y
6	STD30 280-418017/17	60.0	3.215481	12.5	2160431.0	0.053591	Y
7	STD60 280-418017/18	120.0	6.849079	12.5	2310557.0	0.057076	Y





## Calibration

/ 3-Chloro-1-propene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

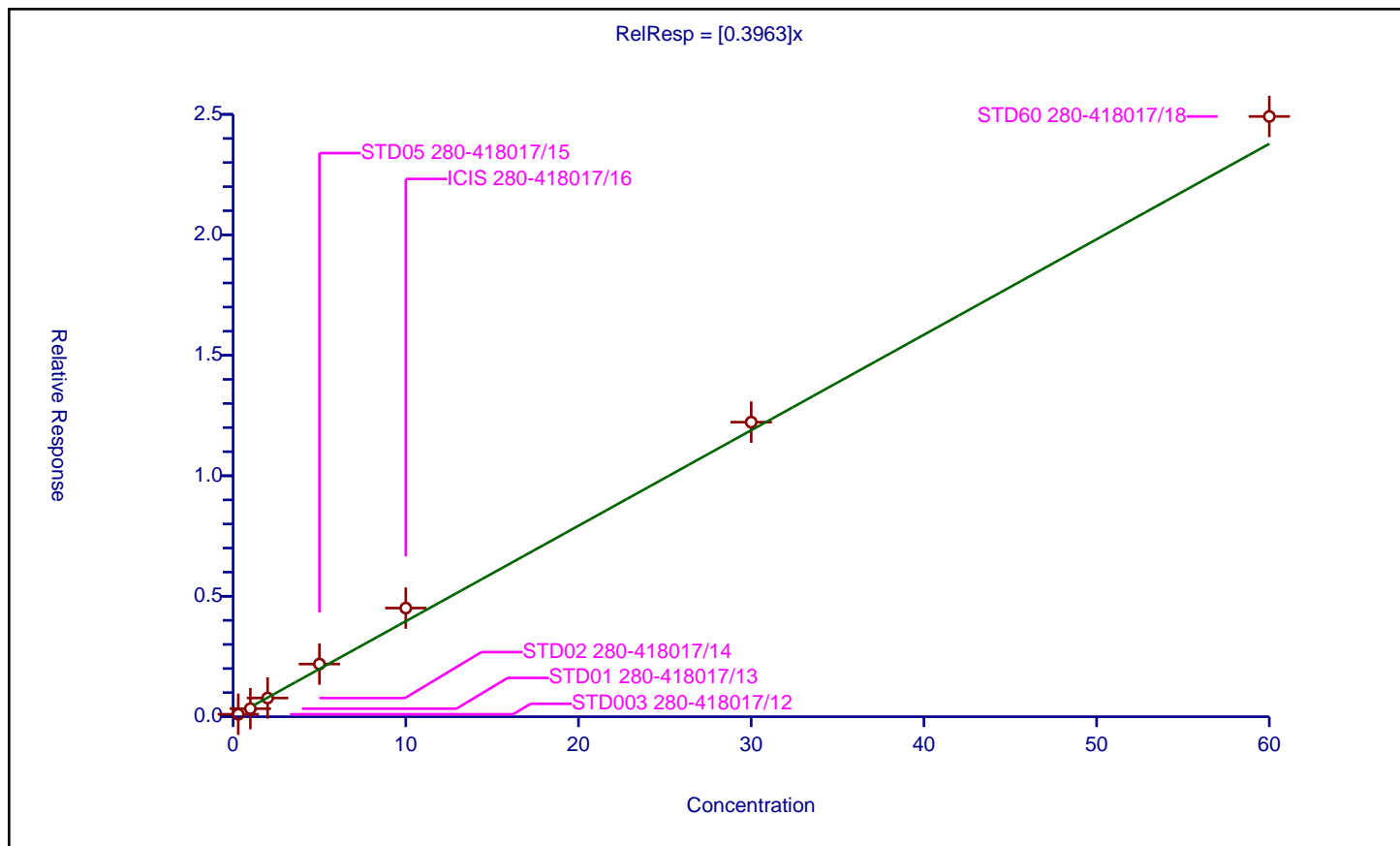
### Curve Coefficients

Intercept: 0  
 Slope: 0.3963

### Error Coefficients

Standard Error: 2100000  
 Relative Standard Error: 11.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.102369	12.5	1767873.0	0.341229	Y
2	STD01 280-418017/13	1.0	0.334341	12.5	1820669.0	0.334341	Y
3	STD02 280-418017/14	2.0	0.775679	12.5	1910551.0	0.38784	Y
4	STD05 280-418017/15	5.0	2.185323	12.5	1942264.0	0.437065	Y
5	ICIS 280-418017/16	10.0	4.509375	12.5	2037896.0	0.450938	Y
6	STD30 280-418017/17	30.0	12.225622	12.5	2160431.0	0.407521	Y
7	STD60 280-418017/18	60.0	24.912218	12.5	2310557.0	0.415204	Y





## Calibration

/ Carbon disulfide

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

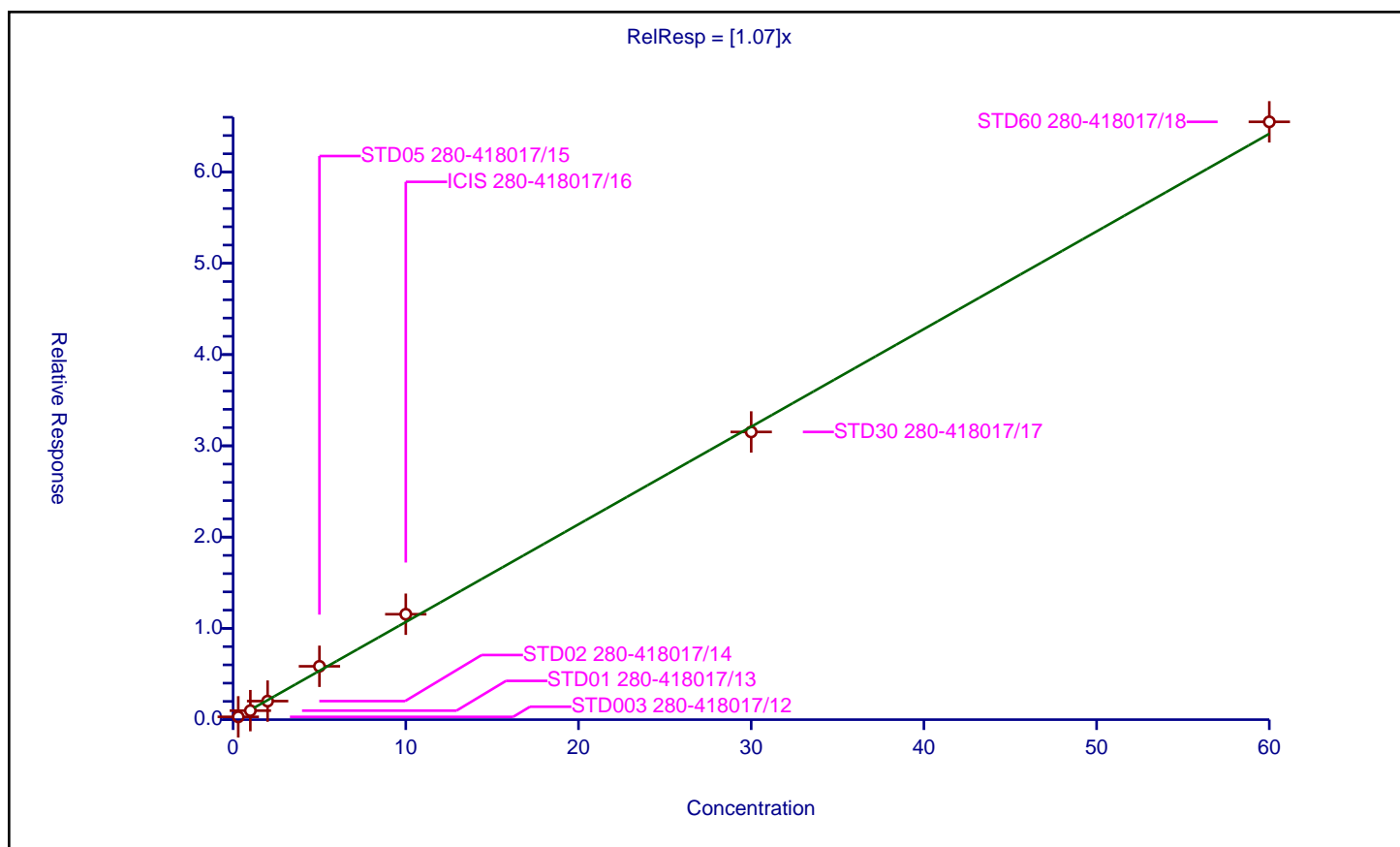
### Curve Coefficients

Intercept: 0  
 Slope: 1.07

### Error Coefficients

Standard Error: 5490000  
 Relative Standard Error: 6.6  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.306053	12.5	1767873.0	1.020176	Y
2	STD01 280-418017/13	1.0	0.986979	12.5	1820669.0	0.986979	Y
3	STD02 280-418017/14	2.0	2.031233	12.5	1910551.0	1.015617	Y
4	STD05 280-418017/15	5.0	5.8447	12.5	1942264.0	1.16894	Y
5	ICIS 280-418017/16	10.0	11.55108	12.5	2037896.0	1.155108	Y
6	STD30 280-418017/17	30.0	31.522466	12.5	2160431.0	1.050749	Y
7	STD60 280-418017/18	60.0	65.501473	12.5	2310557.0	1.091691	Y





# Calibration

/ 2-Methyl-2-propanol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

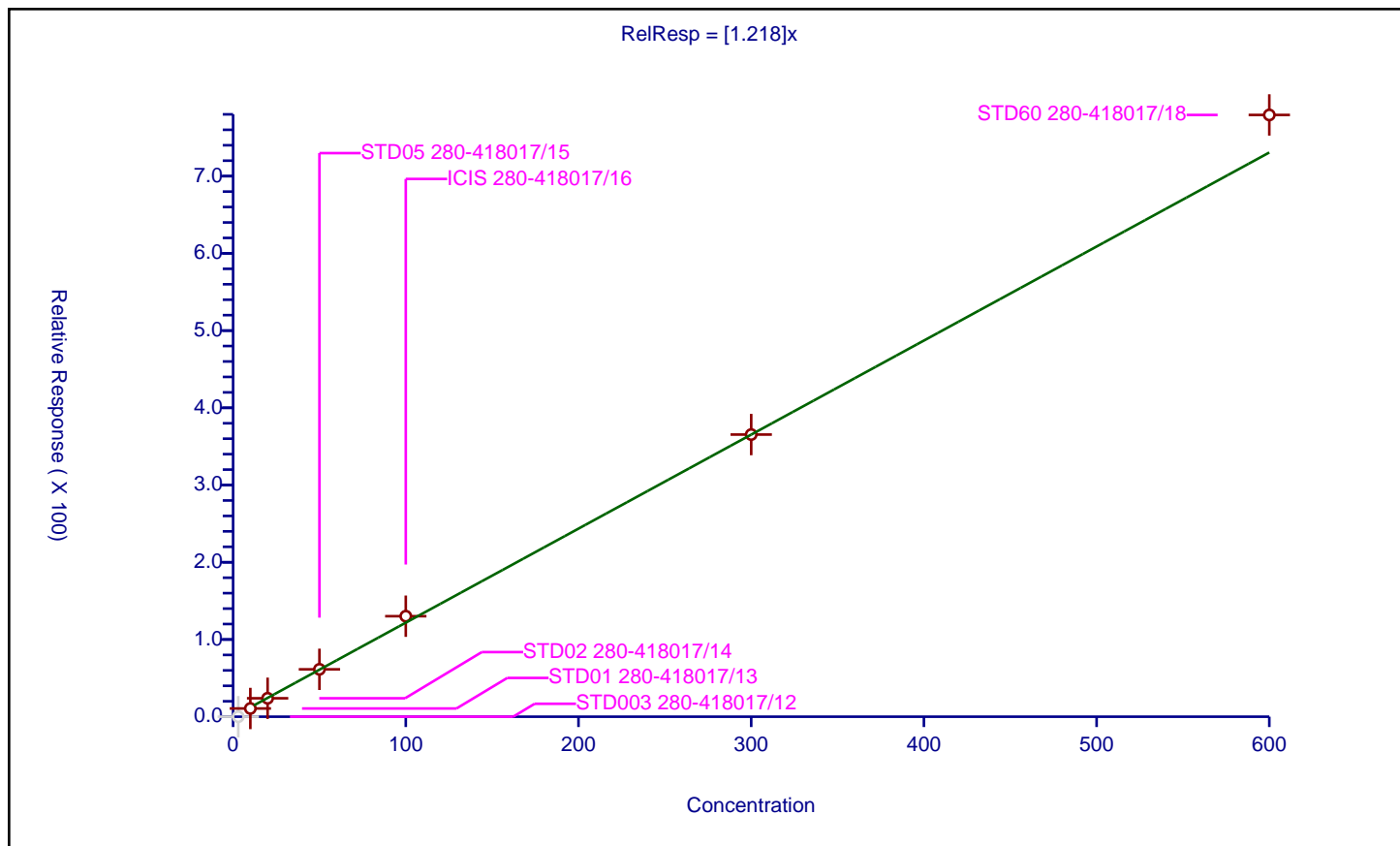
## Curve Coefficients

Intercept: 0  
 Slope: 1.218

## Error Coefficients

Standard Error: 376000  
 Relative Standard Error: 7.1  
 Correlation Coefficient: 0.993  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	3.0	0.0	250.0	144408.0	0.0	N
2	STD01 280-418017/13	10.0	10.667559	250.0	149425.0	1.066756	Y
3	STD02 280-418017/14	20.0	23.878717	250.0	160352.0	1.193936	Y
4	STD05 280-418017/15	50.0	61.360808	250.0	180775.0	1.227216	Y
5	ICIS 280-418017/16	100.0	130.168933	250.0	191674.0	1.301689	Y
6	STD30 280-418017/17	300.0	365.374731	250.0	217903.0	1.217916	Y
7	STD60 280-418017/18	600.0	779.245622	250.0	247661.0	1.298743	Y





## Calibration

/ Methylene Chloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

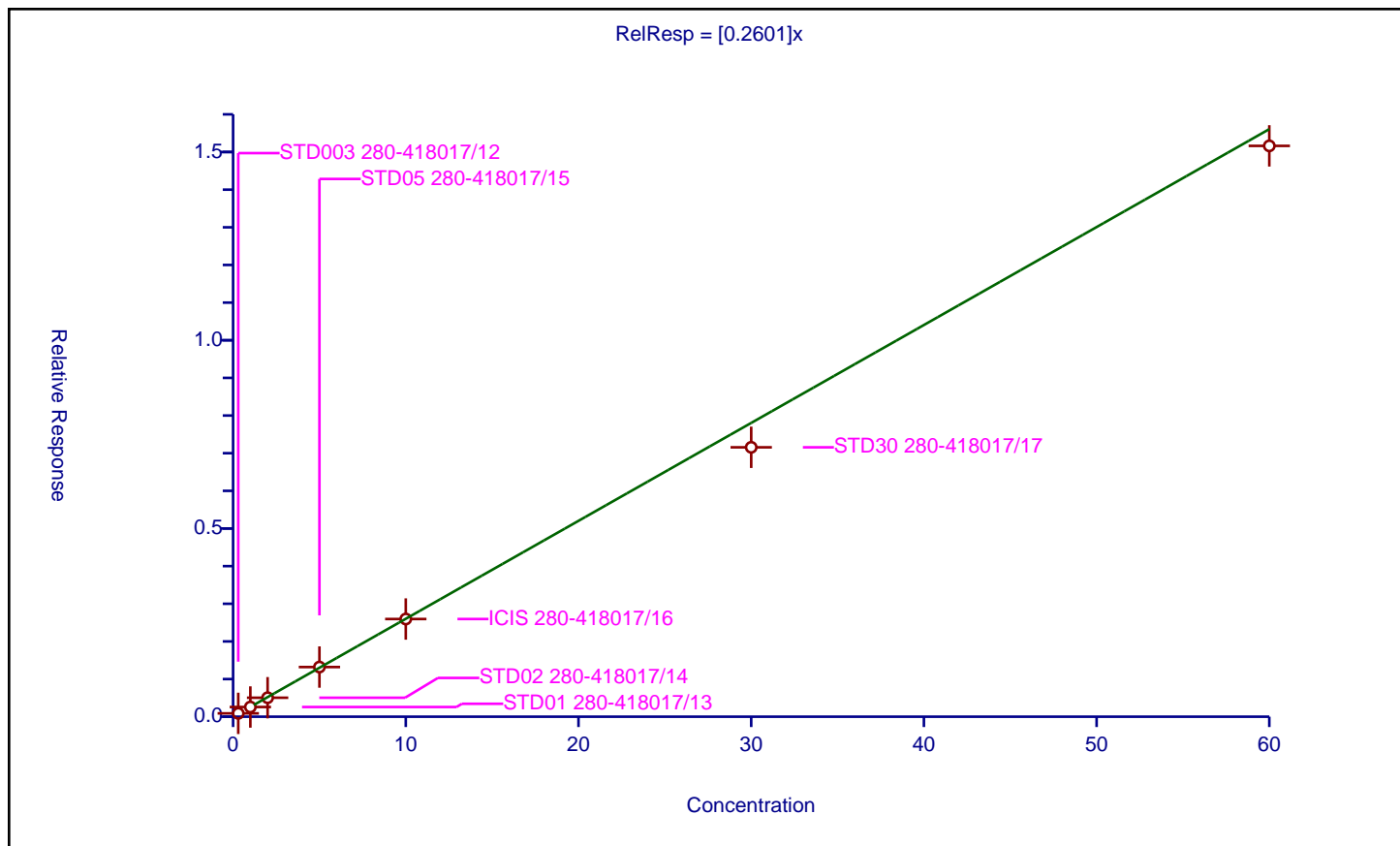
### Curve Coefficients

Intercept: 0  
 Slope: 0.2601

### Error Coefficients

Standard Error: 1270000  
 Relative Standard Error: 6.8  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.088828	12.5	1767873.0	0.296095	Y
2	STD01 280-418017/13	1.0	0.258023	12.5	1820669.0	0.258023	Y
3	STD02 280-418017/14	2.0	0.504298	12.5	1910551.0	0.252149	Y
4	STD05 280-418017/15	5.0	1.319144	12.5	1942264.0	0.263829	Y
5	ICIS 280-418017/16	10.0	2.595354	12.5	2037896.0	0.259535	Y
6	STD30 280-418017/17	30.0	7.155939	12.5	2160431.0	0.238531	Y
7	STD60 280-418017/18	60.0	15.163043	12.5	2310557.0	0.252717	Y





# Calibration

/ Acrylonitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

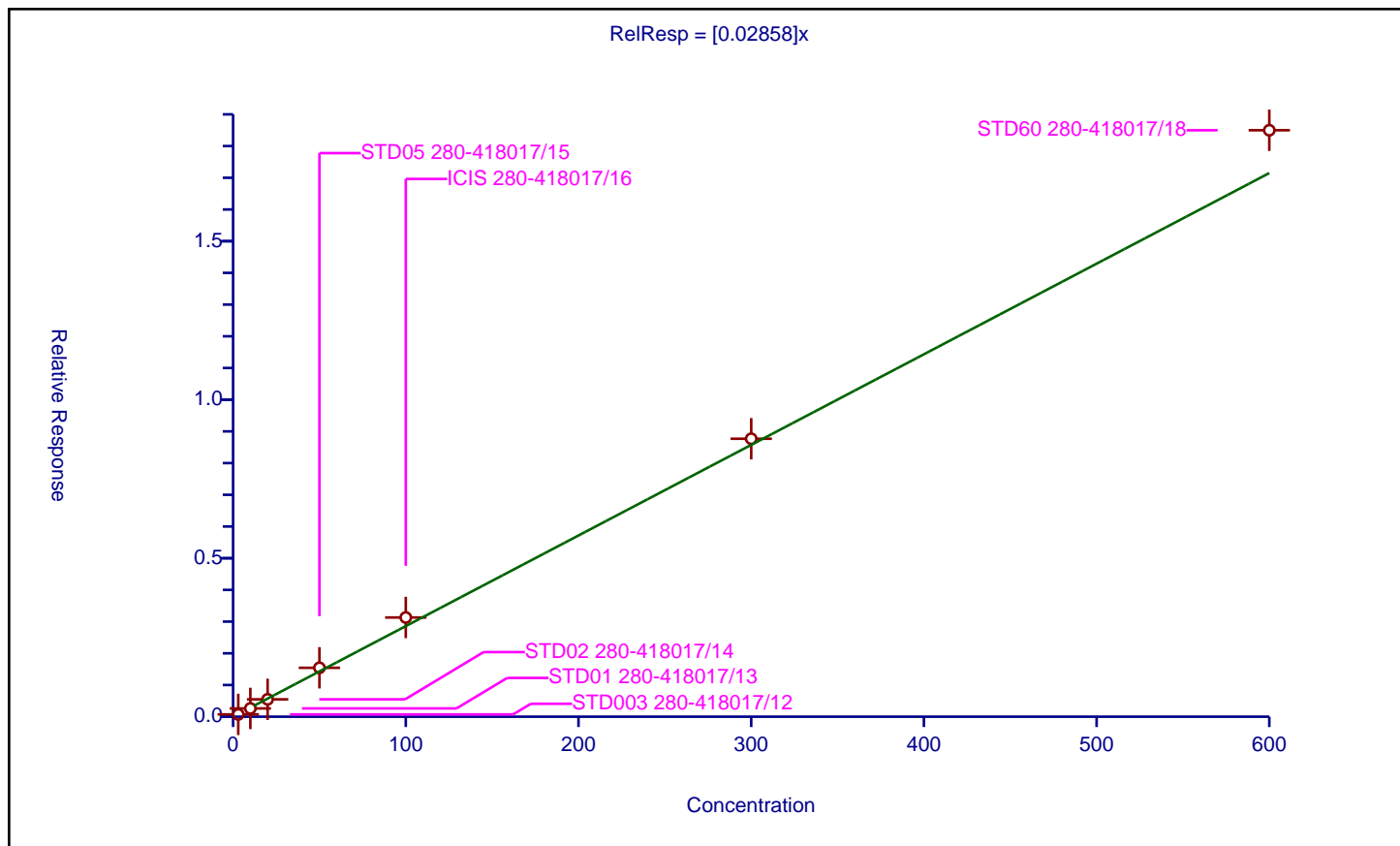
## Curve Coefficients

Intercept: 0  
 Slope: 0.02858

## Error Coefficients

Standard Error: 1540000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	3.0	0.073011	12.5	1767873.0	0.024337	Y
2	STD01 280-418017/13	10.0	0.260941	12.5	1820669.0	0.026094	Y
3	STD02 280-418017/14	20.0	0.54835	12.5	1910551.0	0.027417	Y
4	STD05 280-418017/15	50.0	1.542961	12.5	1942264.0	0.030859	Y
5	ICIS 280-418017/16	100.0	3.129551	12.5	2037896.0	0.031296	Y
6	STD30 280-418017/17	300.0	8.768002	12.5	2160431.0	0.029227	Y
7	STD60 280-418017/18	600.0	18.499068	12.5	2310557.0	0.030832	Y





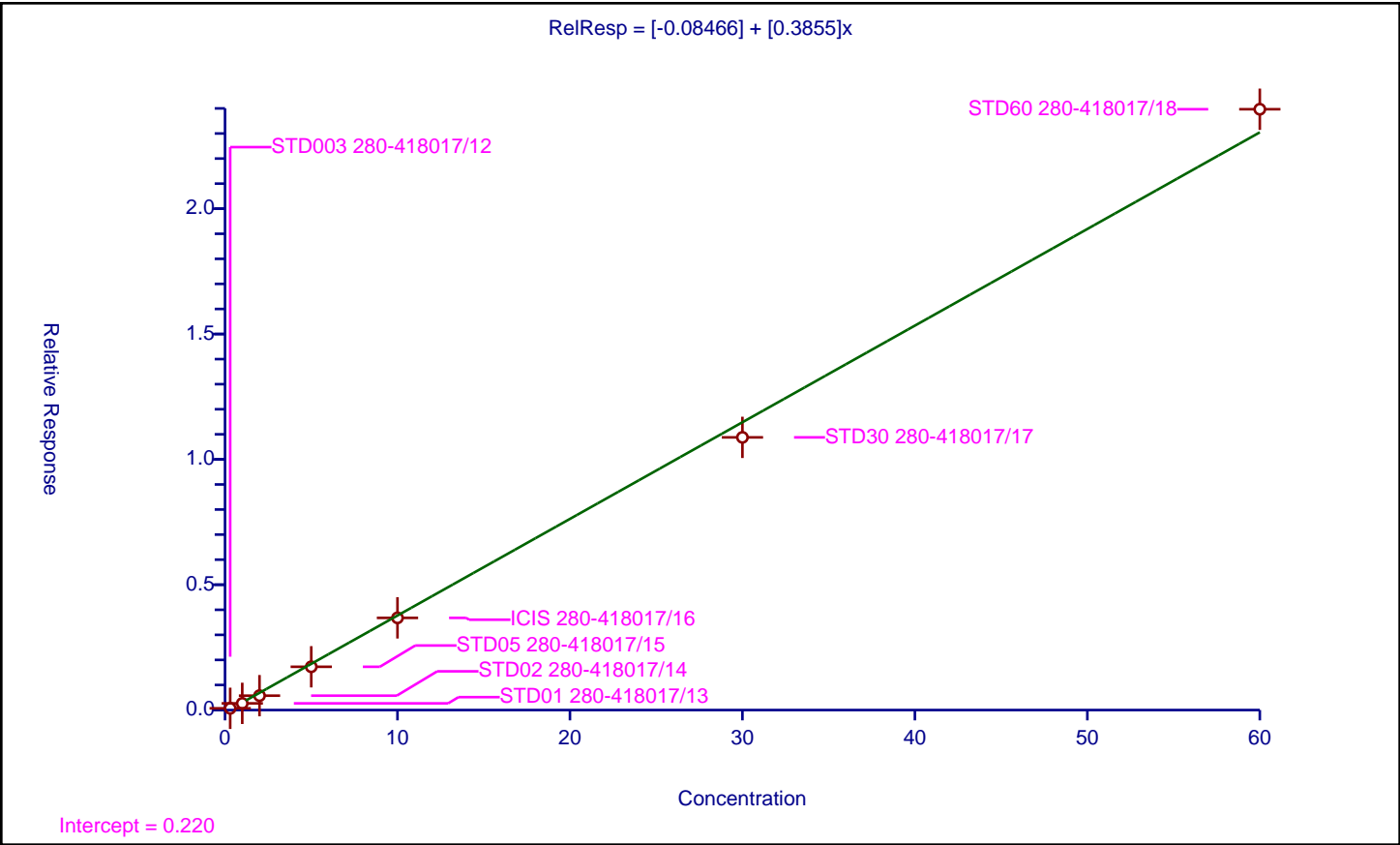
Calibration

/ Methyl tert-butyl ether

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

Curve Coefficients	
Intercept:	-0.08466
Slope:	0.3855
Error Coefficients	
Standard Error:	2170000
Relative Standard Error:	17.2
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.069314	12.5	1767873.0	0.231045	Y
2	STD01 280-418017/13	1.0	0.266894	12.5	1820669.0	0.266894	Y
3	STD02 280-418017/14	2.0	0.573715	12.5	1910551.0	0.286858	Y
4	STD05 280-418017/15	5.0	1.725879	12.5	1942264.0	0.345176	Y
5	ICIS 280-418017/16	10.0	3.677193	12.5	2037896.0	0.367719	Y
6	STD30 280-418017/17	30.0	10.87721	12.5	2160431.0	0.362574	Y
7	STD60 280-418017/18	60.0	23.967608	12.5	2310557.0	0.39946	Y





# Calibration

/ trans-1,2-Dichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

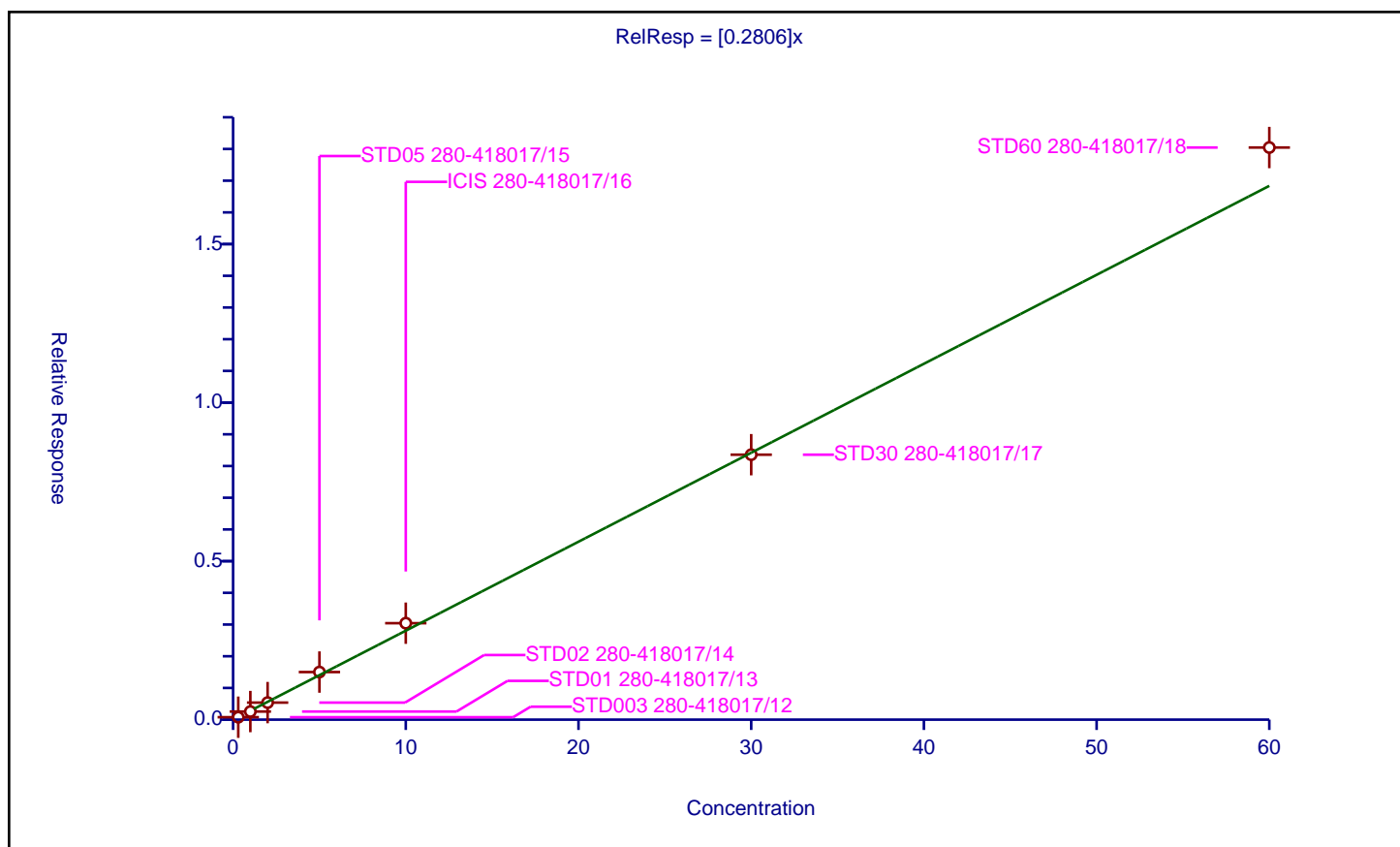
## Curve Coefficients

Intercept: 0  
 Slope: 0.2806

## Error Coefficients

Standard Error: 1500000  
 Relative Standard Error: 7.6  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.076815	12.5	1767873.0	0.256052	Y
2	STD01 280-418017/13	1.0	0.255421	12.5	1820669.0	0.255421	Y
3	STD02 280-418017/14	2.0	0.537875	12.5	1910551.0	0.268937	Y
4	STD05 280-418017/15	5.0	1.50127	12.5	1942264.0	0.300254	Y
5	ICIS 280-418017/16	10.0	3.042298	12.5	2037896.0	0.30423	Y
6	STD30 280-418017/17	30.0	8.357135	12.5	2160431.0	0.278571	Y
7	STD60 280-418017/18	60.0	18.046027	12.5	2310557.0	0.300767	Y





# Calibration

/ Hexane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

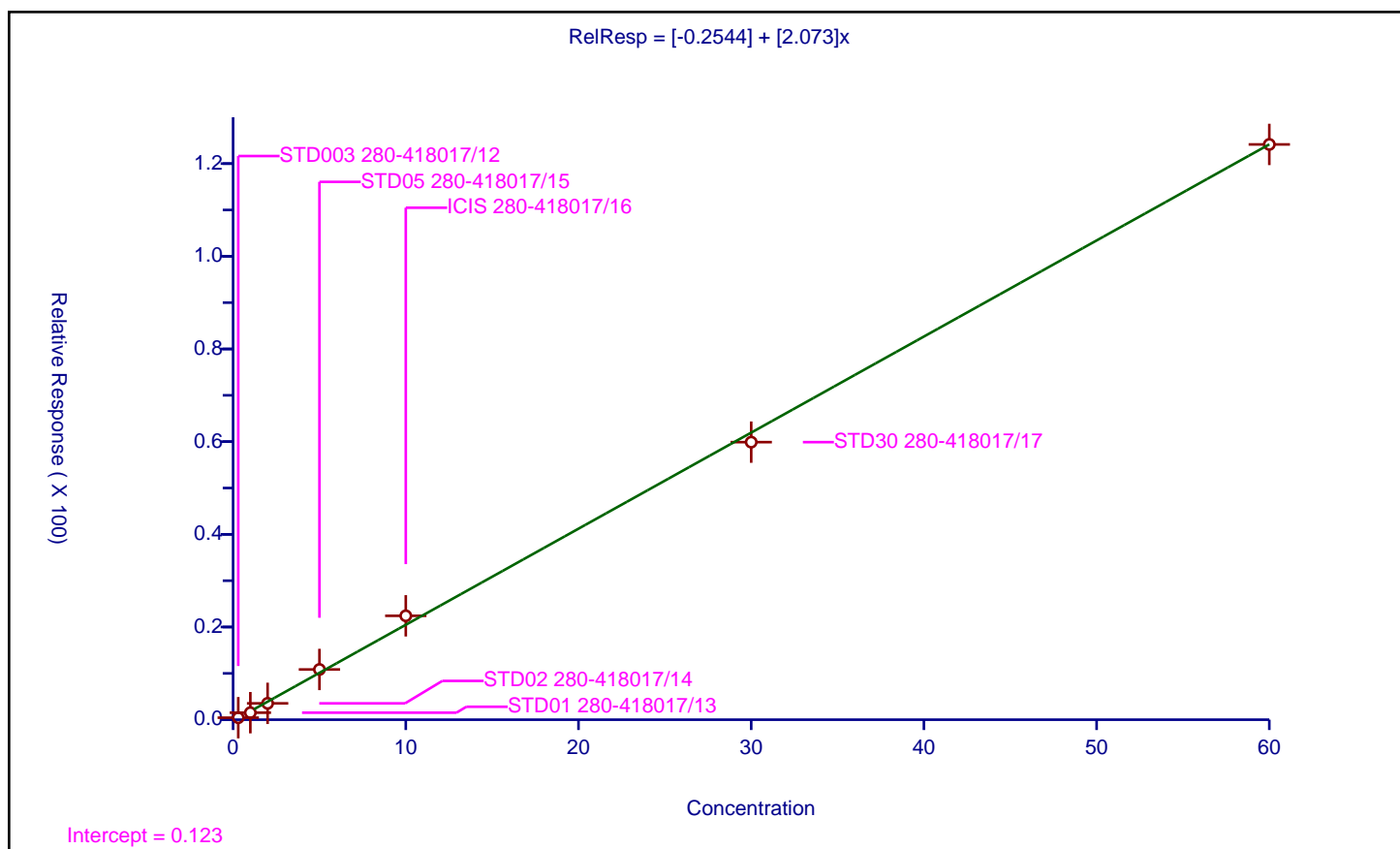
## Curve Coefficients

Intercept: -0.2544  
 Slope: 2.073

## Error Coefficients

Standard Error: 2490000  
 Relative Standard Error: 10.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.4322	12.5	360337.0	1.440665	Y
2	STD01 280-418017/13	1.0	1.514346	12.5	376623.0	1.514346	Y
3	STD02 280-418017/14	2.0	3.530157	12.5	404550.0	1.765078	Y
4	STD05 280-418017/15	5.0	10.83855	12.5	413449.0	2.16771	Y
5	ICIS 280-418017/16	10.0	22.418329	12.5	435895.0	2.241833	Y
6	STD30 280-418017/17	30.0	59.897633	12.5	467680.0	1.996588	Y
7	STD60 280-418017/18	60.0	124.141516	12.5	506212.0	2.069025	Y





## Calibration

/ Vinyl acetate

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

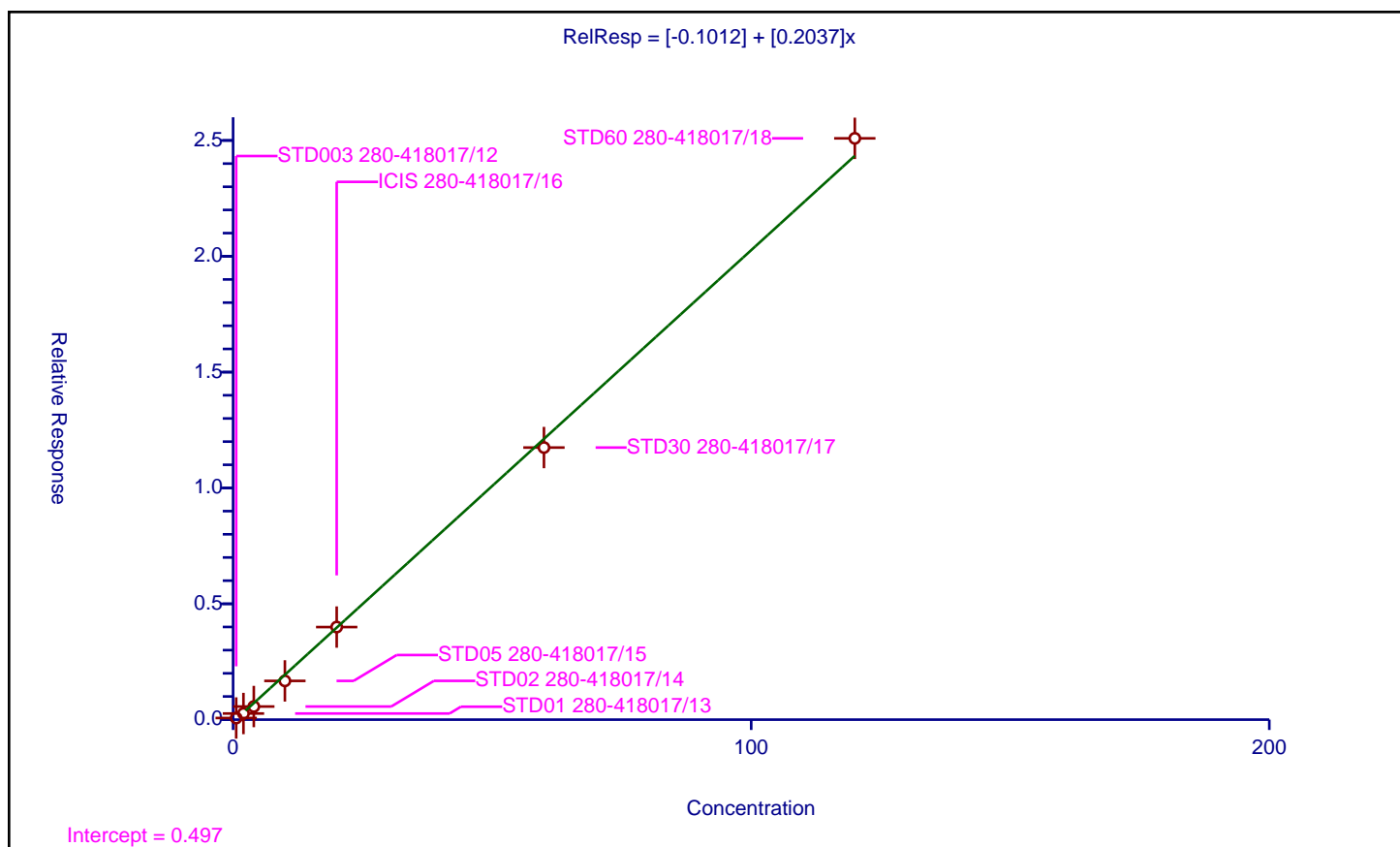
### Curve Coefficients

Intercept: -0.1012  
 Slope: 0.2037

### Error Coefficients

Standard Error: 2290000  
 Relative Standard Error: 21.3  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.6	0.070572	12.5	1767873.0	0.11762	Y
2	STD01 280-418017/13	2.0	0.264916	12.5	1820669.0	0.132458	Y
3	STD02 280-418017/14	4.0	0.565753	12.5	1910551.0	0.141438	Y
4	STD05 280-418017/15	10.0	1.672069	12.5	1942264.0	0.167207	Y
5	ICIS 280-418017/16	20.0	3.996285	12.5	2037896.0	0.199814	Y
6	STD30 280-418017/17	60.0	11.743542	12.5	2160431.0	0.195726	Y
7	STD60 280-418017/18	120.0	25.090406	12.5	2310557.0	0.209087	Y





# Calibration

/ 1,1-Dichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

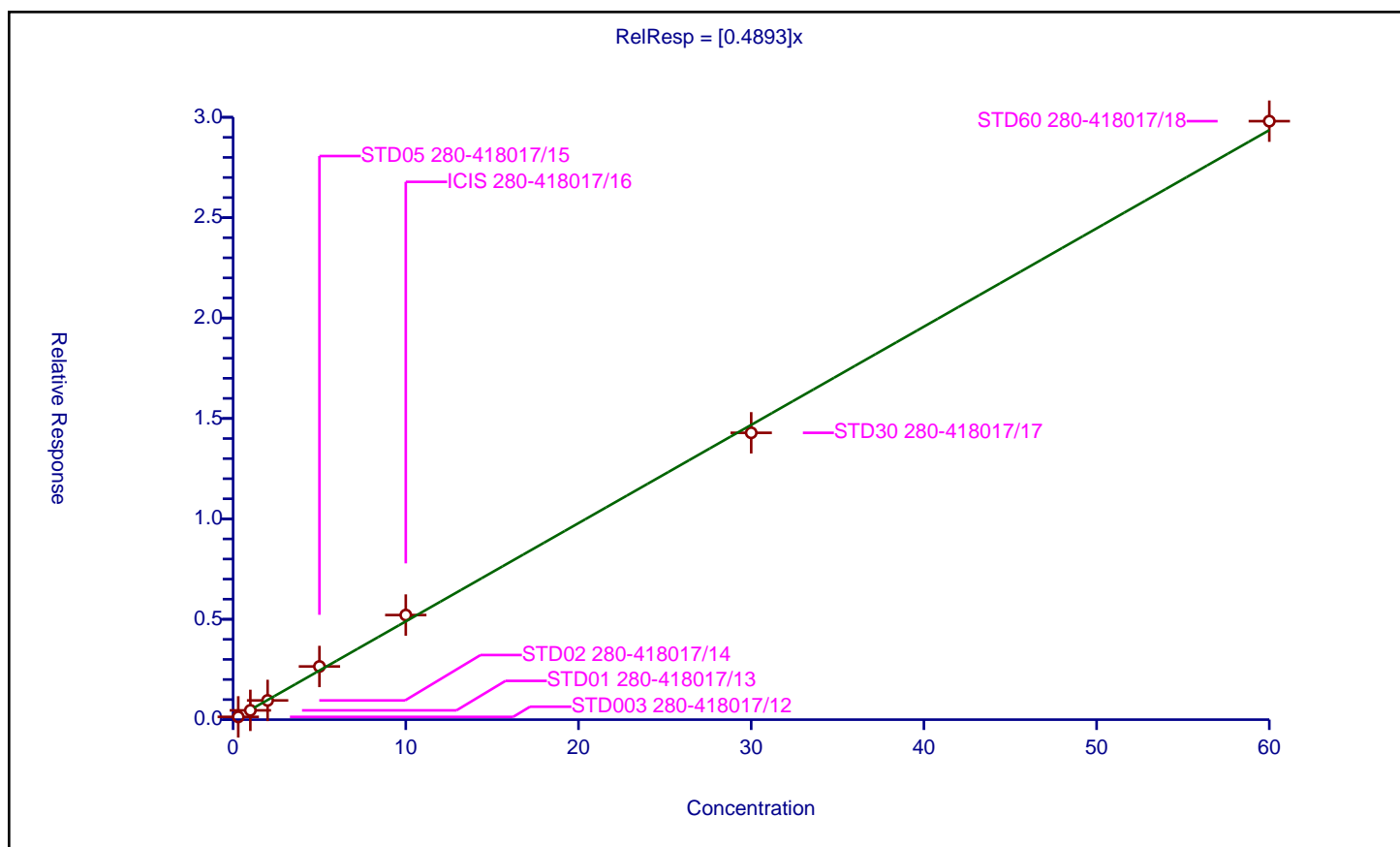
## Curve Coefficients

Intercept: 0  
 Slope: 0.4893

## Error Coefficients

Standard Error: 2500000  
 Relative Standard Error: 5.6  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.138238	12.5	1767873.0	0.460794	Y
2	STD01 280-418017/13	1.0	0.462824	12.5	1820669.0	0.462824	Y
3	STD02 280-418017/14	2.0	0.95636	12.5	1910551.0	0.47818	Y
4	STD05 280-418017/15	5.0	2.64843	12.5	1942264.0	0.529686	Y
5	ICIS 280-418017/16	10.0	5.208785	12.5	2037896.0	0.520879	Y
6	STD30 280-418017/17	30.0	14.28572	12.5	2160431.0	0.476191	Y
7	STD60 280-418017/18	60.0	29.80659	12.5	2310557.0	0.496776	Y





## Calibration

/ 2-Butanone (MEK)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

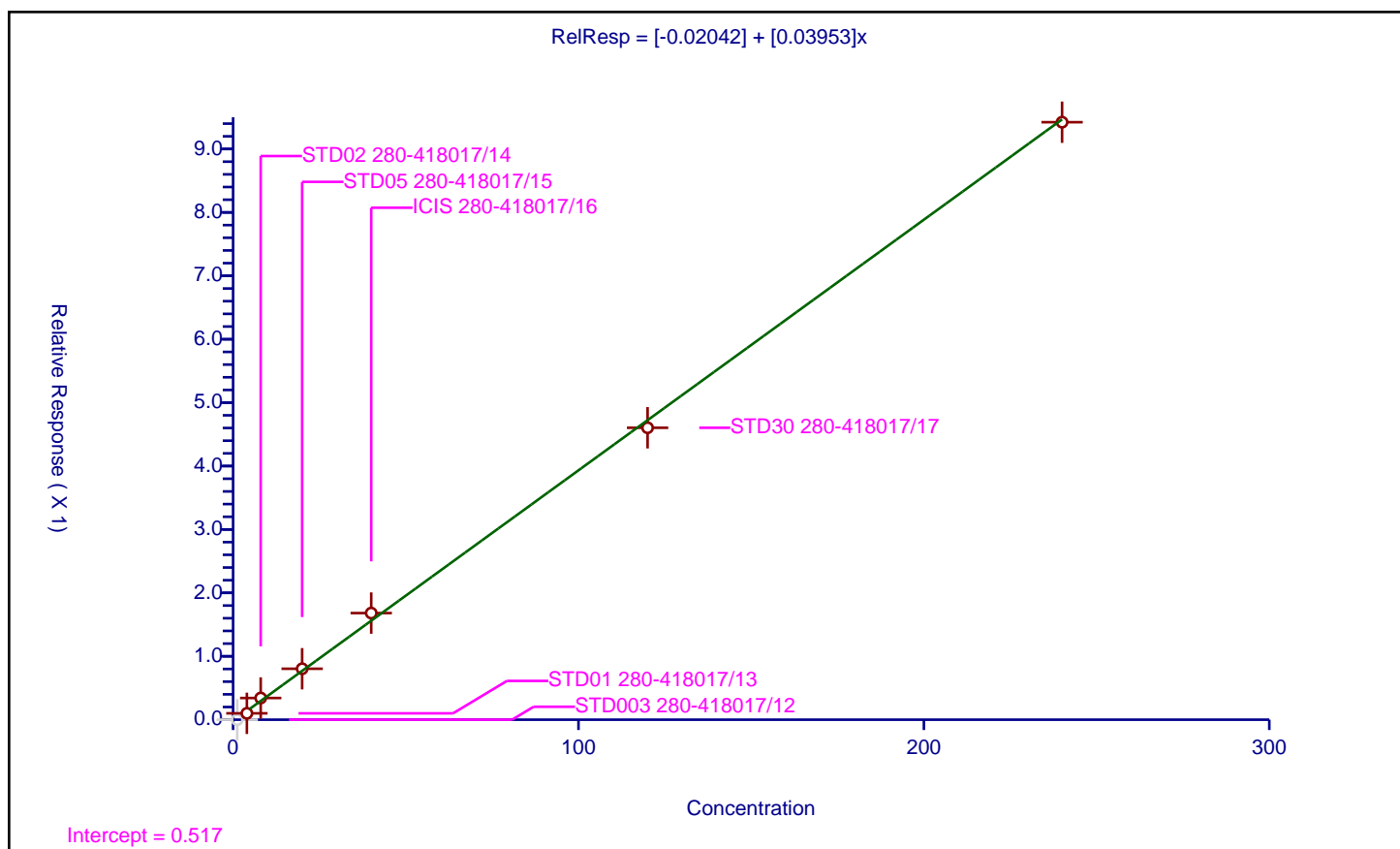
### Curve Coefficients

Intercept: -0.02042  
 Slope: 0.03953

### Error Coefficients

Standard Error: 970000  
 Relative Standard Error: 14.6  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	1.2	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	4.0	0.100396	12.5	1820669.0	0.025099	Y
3	STD02 280-418017/14	8.0	0.342349	12.5	1910551.0	0.042794	Y
4	STD05 280-418017/15	20.0	0.803399	12.5	1942264.0	0.04017	Y
5	ICIS 280-418017/16	40.0	1.681557	12.5	2037896.0	0.042039	Y
6	STD30 280-418017/17	120.0	4.603549	12.5	2160431.0	0.038363	Y
7	STD60 280-418017/18	240.0	9.422501	12.5	2310557.0	0.03926	Y





# Calibration

/ sec-Butyl Alcohol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

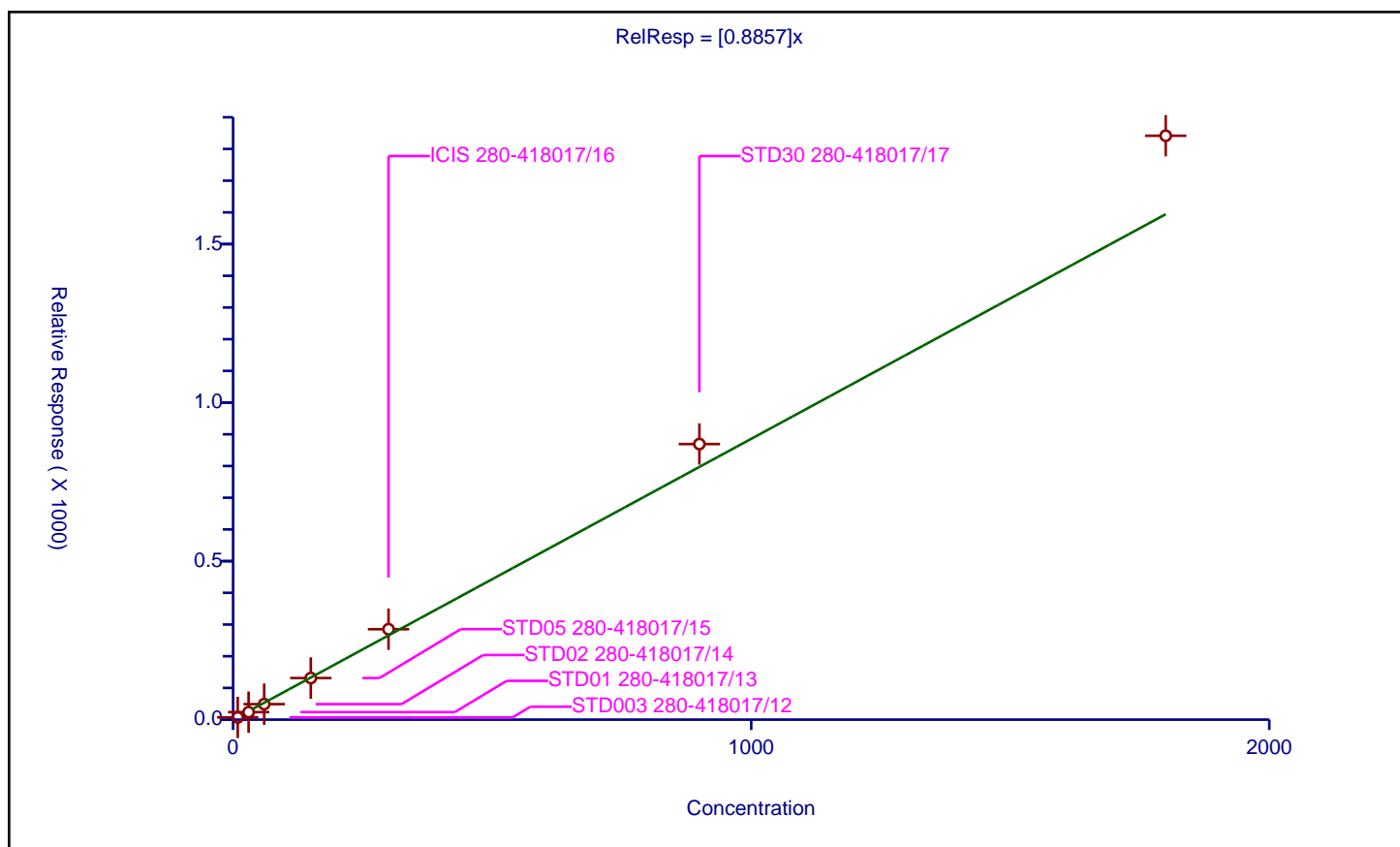
## Curve Coefficients

Intercept: 0  
 Slope: 0.8857

## Error Coefficients

Standard Error: 812000  
 Relative Standard Error: 10.8  
 Correlation Coefficient: 0.993  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	9.0	7.026965	250.0	144408.0	0.780774	Y
2	STD01 280-418017/13	30.0	23.643969	250.0	149425.0	0.788132	Y
3	STD02 280-418017/14	60.0	48.965713	250.0	160352.0	0.816095	Y
4	STD05 280-418017/15	150.0	131.226663	250.0	180775.0	0.874844	Y
5	ICIS 280-418017/16	300.0	285.230391	250.0	191674.0	0.950768	Y
6	STD30 280-418017/17	900.0	869.317999	250.0	217903.0	0.965909	Y
7	STD60 280-418017/18	1800.0	1841.789785	250.0	247661.0	1.023217	Y





# Calibration

/ cis-1,2-Dichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

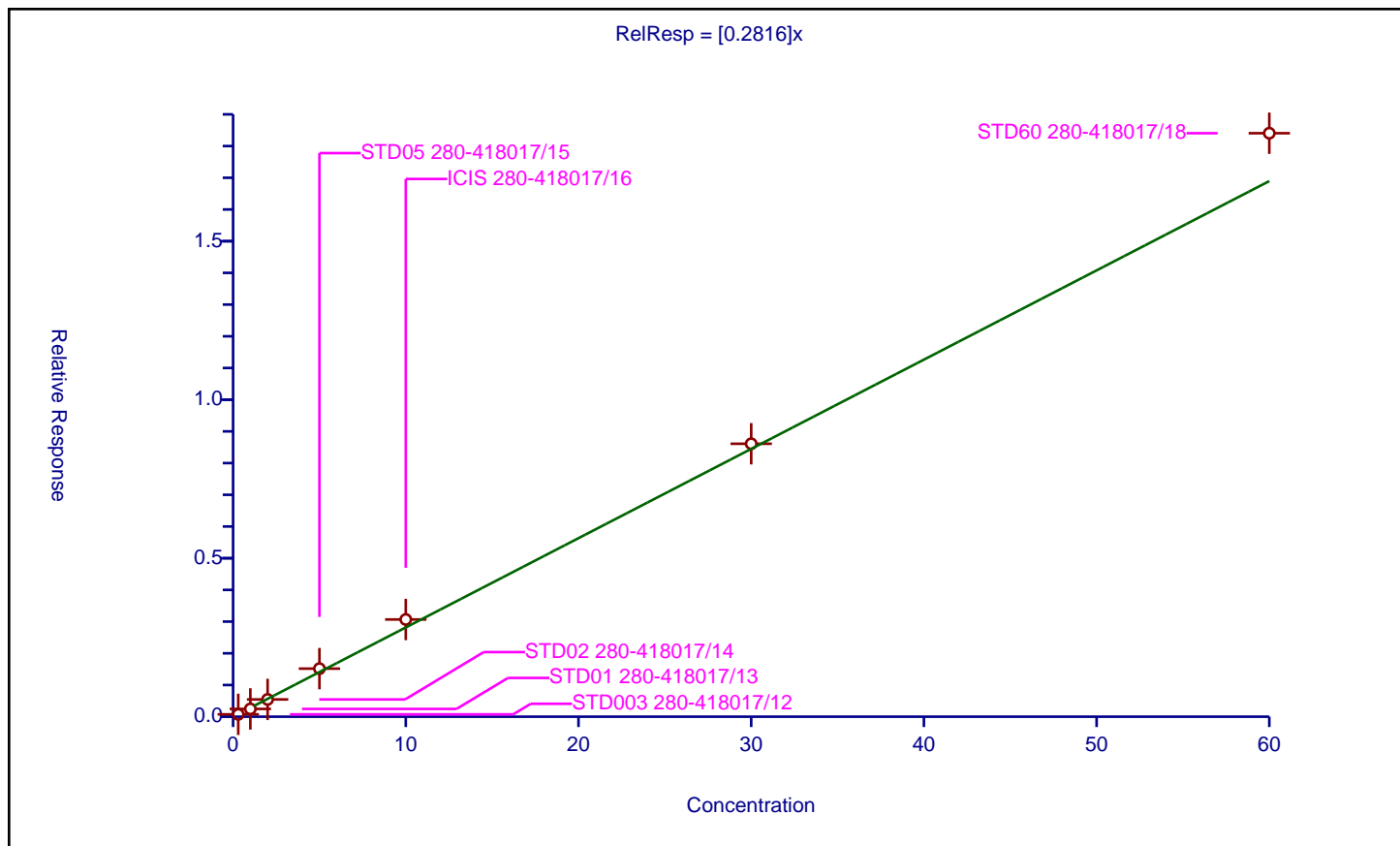
## Curve Coefficients

Intercept: 0  
 Slope: 0.2816

## Error Coefficients

Standard Error: 1530000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.074588	12.5	1767873.0	0.248627	Y
2	STD01 280-418017/13	1.0	0.246084	12.5	1820669.0	0.246084	Y
3	STD02 280-418017/14	2.0	0.545176	12.5	1910551.0	0.272588	Y
4	STD05 280-418017/15	5.0	1.516503	12.5	1942264.0	0.303301	Y
5	ICIS 280-418017/16	10.0	3.066974	12.5	2037896.0	0.306697	Y
6	STD30 280-418017/17	30.0	8.609503	12.5	2160431.0	0.286983	Y
7	STD60 280-418017/18	60.0	18.405005	12.5	2310557.0	0.30675	Y





## Calibration

/ 2,2-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

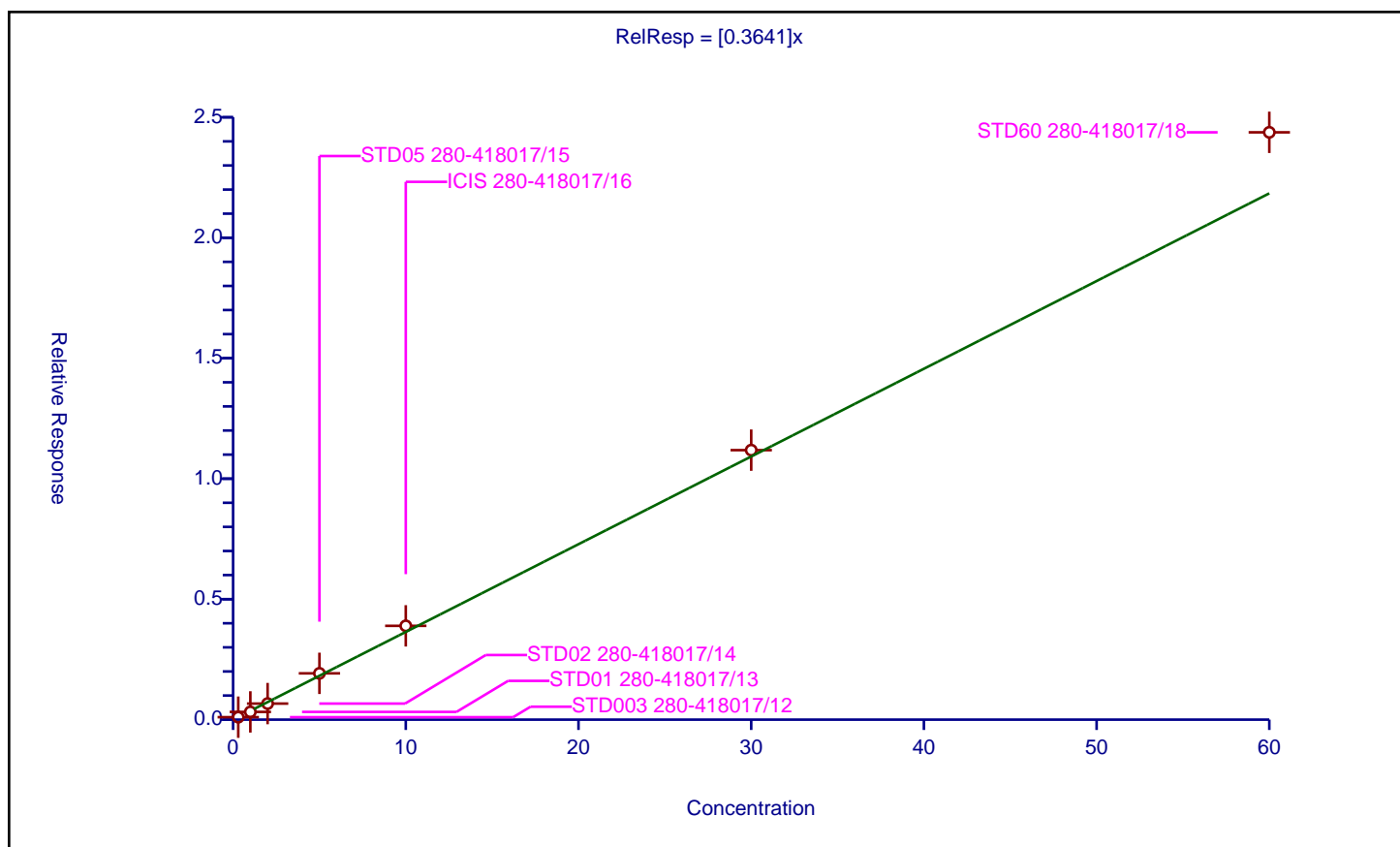
### Curve Coefficients

Intercept: 0  
 Slope: 0.3641

### Error Coefficients

Standard Error: 2020000  
 Relative Standard Error: 8.8  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.10251	12.5	1767873.0	0.341701	Y
2	STD01 280-418017/13	1.0	0.320713	12.5	1820669.0	0.320713	Y
3	STD02 280-418017/14	2.0	0.666791	12.5	1910551.0	0.333395	Y
4	STD05 280-418017/15	5.0	1.921057	12.5	1942264.0	0.384211	Y
5	ICIS 280-418017/16	10.0	3.892562	12.5	2037896.0	0.389256	Y
6	STD30 280-418017/17	30.0	11.185106	12.5	2160431.0	0.372837	Y
7	STD60 280-418017/18	60.0	24.375102	12.5	2310557.0	0.406252	Y





## Calibration

/ Chlorobromomethane

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

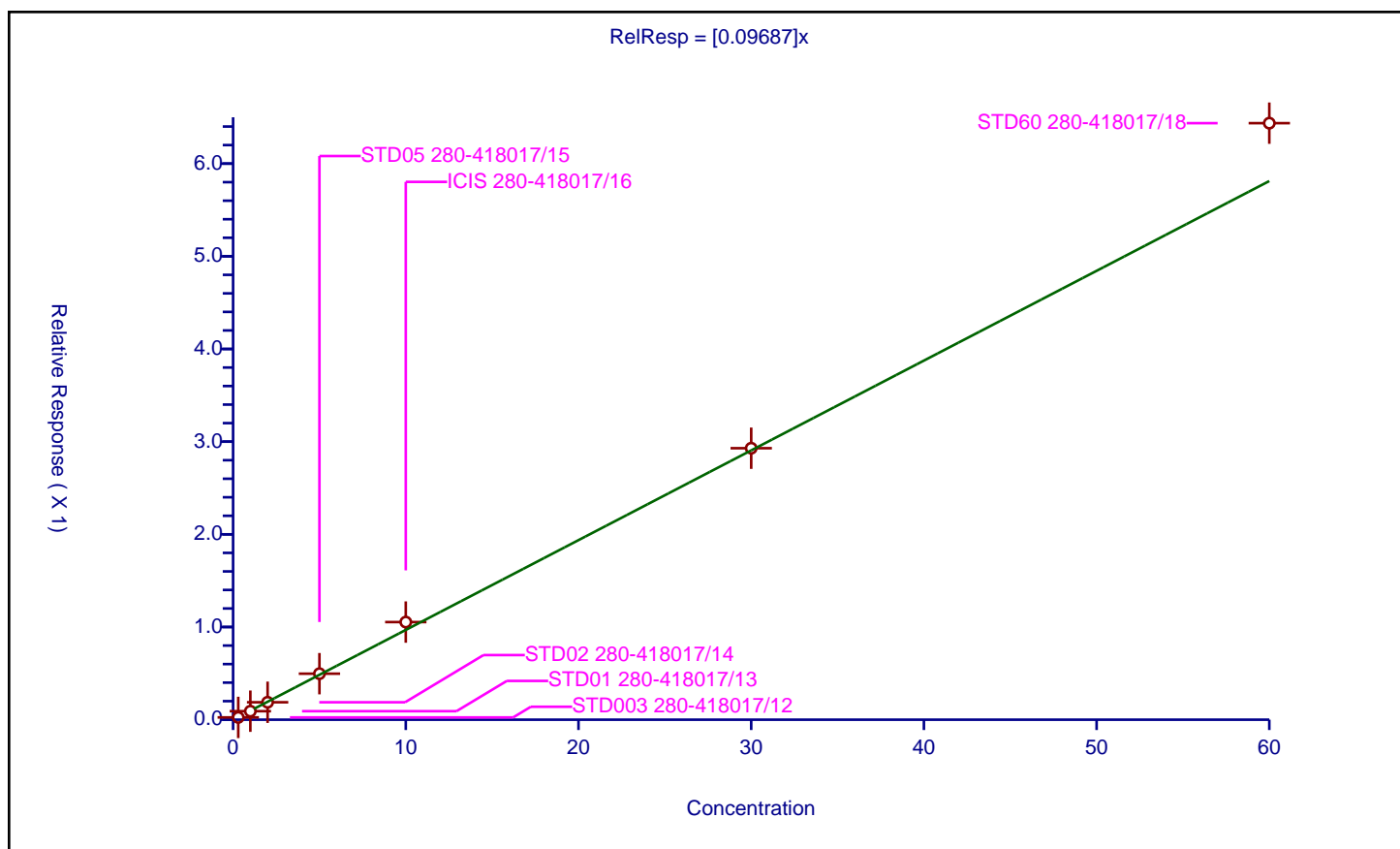
## Curve Coefficients

Intercept: 0  
Slope: 0.09687

## Error Coefficients

Standard Error: 534000  
Relative Standard Error: 8.7  
Correlation Coefficient: 0.995  
Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.024783	12.5	1767873.0	0.082609	Y
2	STD01 280-418017/13	1.0	0.091807	12.5	1820669.0	0.091807	Y
3	STD02 280-418017/14	2.0	0.188107	12.5	1910551.0	0.094053	Y
4	STD05 280-418017/15	5.0	0.49665	12.5	1942264.0	0.09933	Y
5	ICIS 280-418017/16	10.0	1.05336	12.5	2037896.0	0.105336	Y
6	STD30 280-418017/17	30.0	2.92941	12.5	2160431.0	0.097647	Y
7	STD60 280-418017/18	60.0	6.436467	12.5	2310557.0	0.107274	Y





## Calibration

/ Chloroform

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

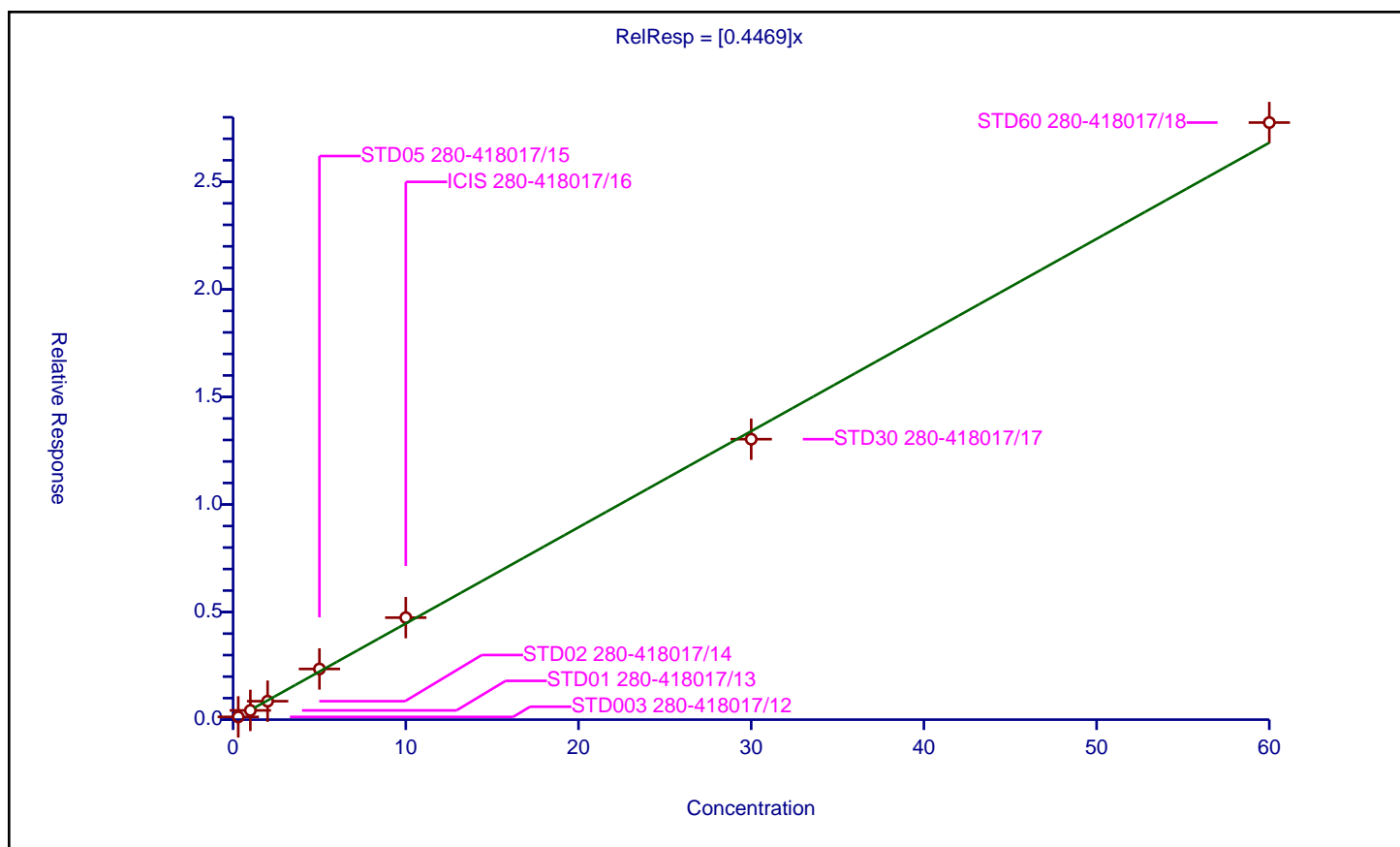
## Curve Coefficients

Intercept: 0  
Slope: 0.4469

## Error Coefficients

Standard Error: 2310000  
Relative Standard Error: 4.8  
Correlation Coefficient: 0.997  
Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.128155	12.5	1767873.0	0.427185	Y
2	STD01 280-418017/13	1.0	0.429746	12.5	1820669.0	0.429746	Y
3	STD02 280-418017/14	2.0	0.858247	12.5	1910551.0	0.429124	Y
4	STD05 280-418017/15	5.0	2.356425	12.5	1942264.0	0.471285	Y
5	ICIS 280-418017/16	10.0	4.741986	12.5	2037896.0	0.474199	Y
6	STD30 280-418017/17	30.0	13.036201	12.5	2160431.0	0.43454	Y
7	STD60 280-418017/18	60.0	27.754206	12.5	2310557.0	0.46257	Y





# Calibration

/ Tetrahydrofuran

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

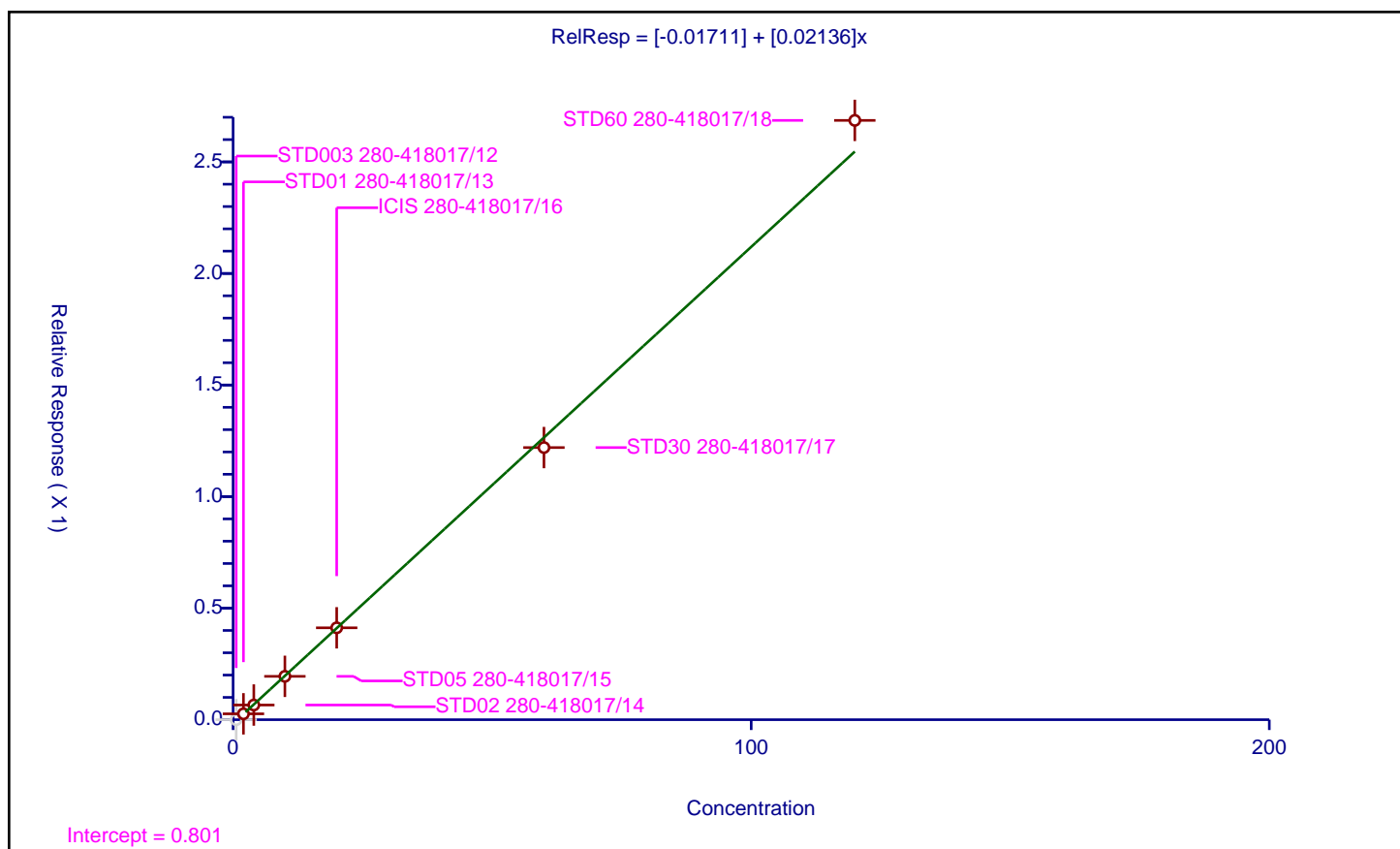
## Curve Coefficients

Intercept: -0.01711  
 Slope: 0.02136

## Error Coefficients

Standard Error: 272000  
 Relative Standard Error: 3.7  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.6	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	2.0	0.026336	12.5	1820669.0	0.013168	Y
3	STD02 280-418017/14	4.0	0.06576	12.5	1910551.0	0.01644	Y
4	STD05 280-418017/15	10.0	0.194342	12.5	1942264.0	0.019434	Y
5	ICIS 280-418017/16	20.0	0.411803	12.5	2037896.0	0.02059	Y
6	STD30 280-418017/17	60.0	1.21967	12.5	2160431.0	0.020328	Y
7	STD60 280-418017/18	120.0	2.686051	12.5	2310557.0	0.022384	Y





## Calibration

/ Dibromofluoromethane (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

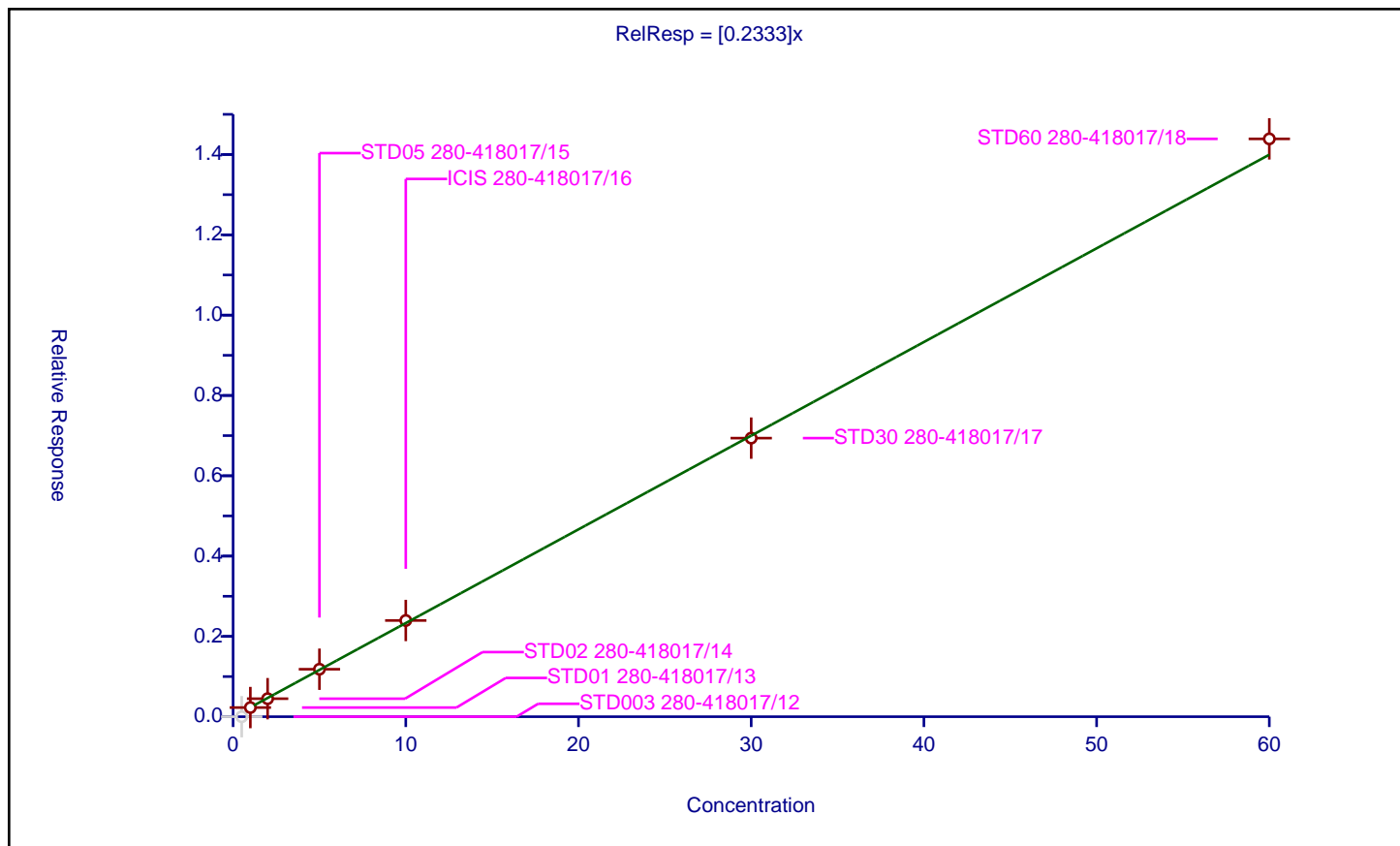
### Curve Coefficients

Intercept: 0  
 Slope: 0.2333

### Error Coefficients

Standard Error: 1320000  
 Relative Standard Error: 2.7  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.5	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	1.0	0.228096	12.5	1820669.0	0.228096	Y
3	STD02 280-418017/14	2.0	0.448588	12.5	1910551.0	0.224294	Y
4	STD05 280-418017/15	5.0	1.182525	12.5	1942264.0	0.236505	Y
5	ICIS 280-418017/16	10.0	2.396289	12.5	2037896.0	0.239629	Y
6	STD30 280-418017/17	30.0	6.937632	12.5	2160431.0	0.231254	Y
7	STD60 280-418017/18	60.0	14.389874	12.5	2310557.0	0.239831	Y





# Calibration

/ Isobutyl alcohol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

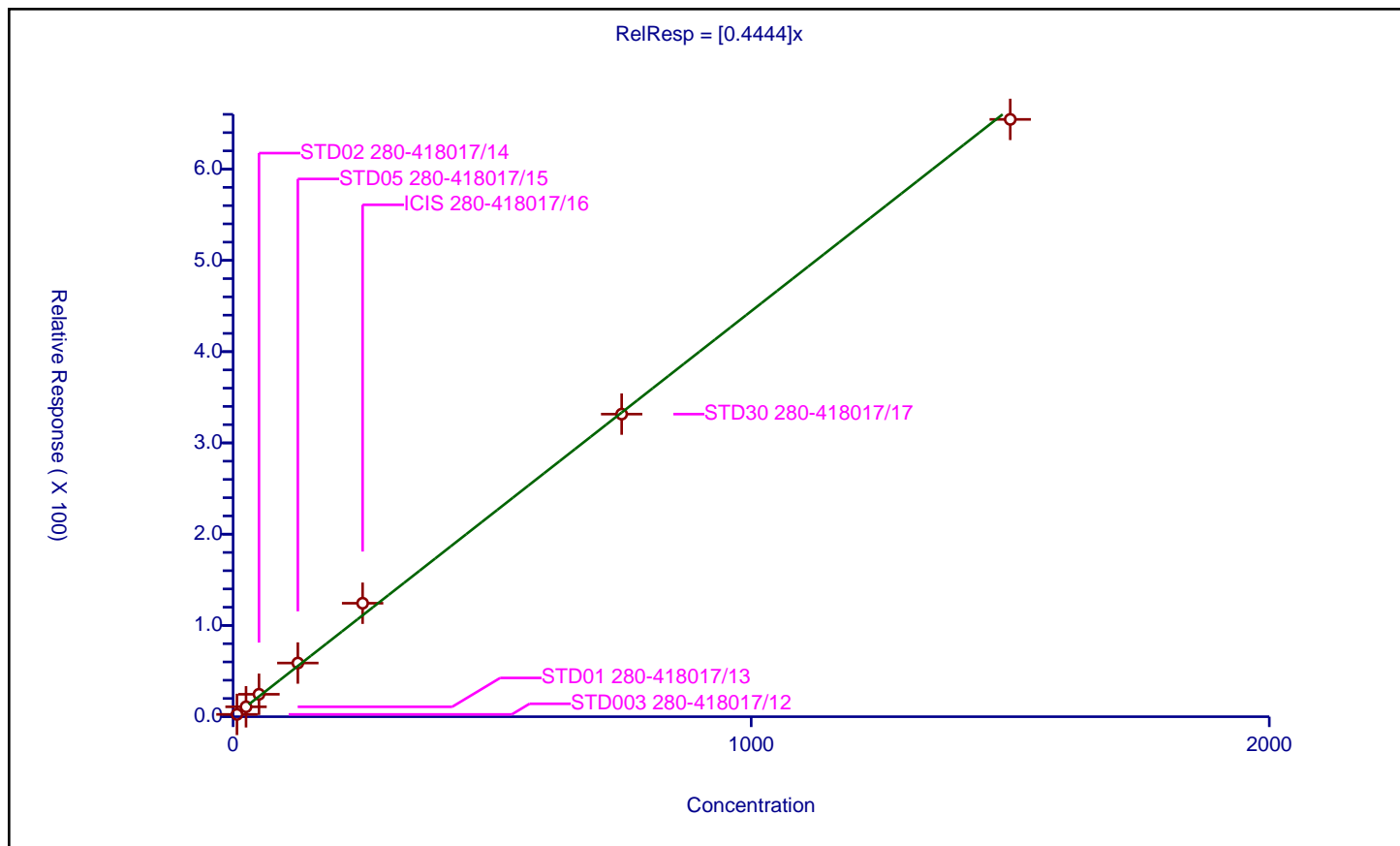
## Curve Coefficients

Intercept: 0  
 Slope: 0.4444

## Error Coefficients

Standard Error: 293000  
 Relative Standard Error: 12.1  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	7.5	2.536217	250.0	144408.0	0.338162	Y
2	STD01 280-418017/13	25.0	10.851598	250.0	149425.0	0.434064	Y
3	STD02 280-418017/14	50.0	24.600566	250.0	160352.0	0.492011	Y
4	STD05 280-418017/15	125.0	58.817591	250.0	180775.0	0.470541	Y
5	ICIS 280-418017/16	250.0	124.337417	250.0	191674.0	0.49735	Y
6	STD30 280-418017/17	750.0	331.552342	250.0	217903.0	0.44207	Y
7	STD60 280-418017/18	1500.0	654.505554	250.0	247661.0	0.436337	Y





# Calibration

/ 1,1,1-Trichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

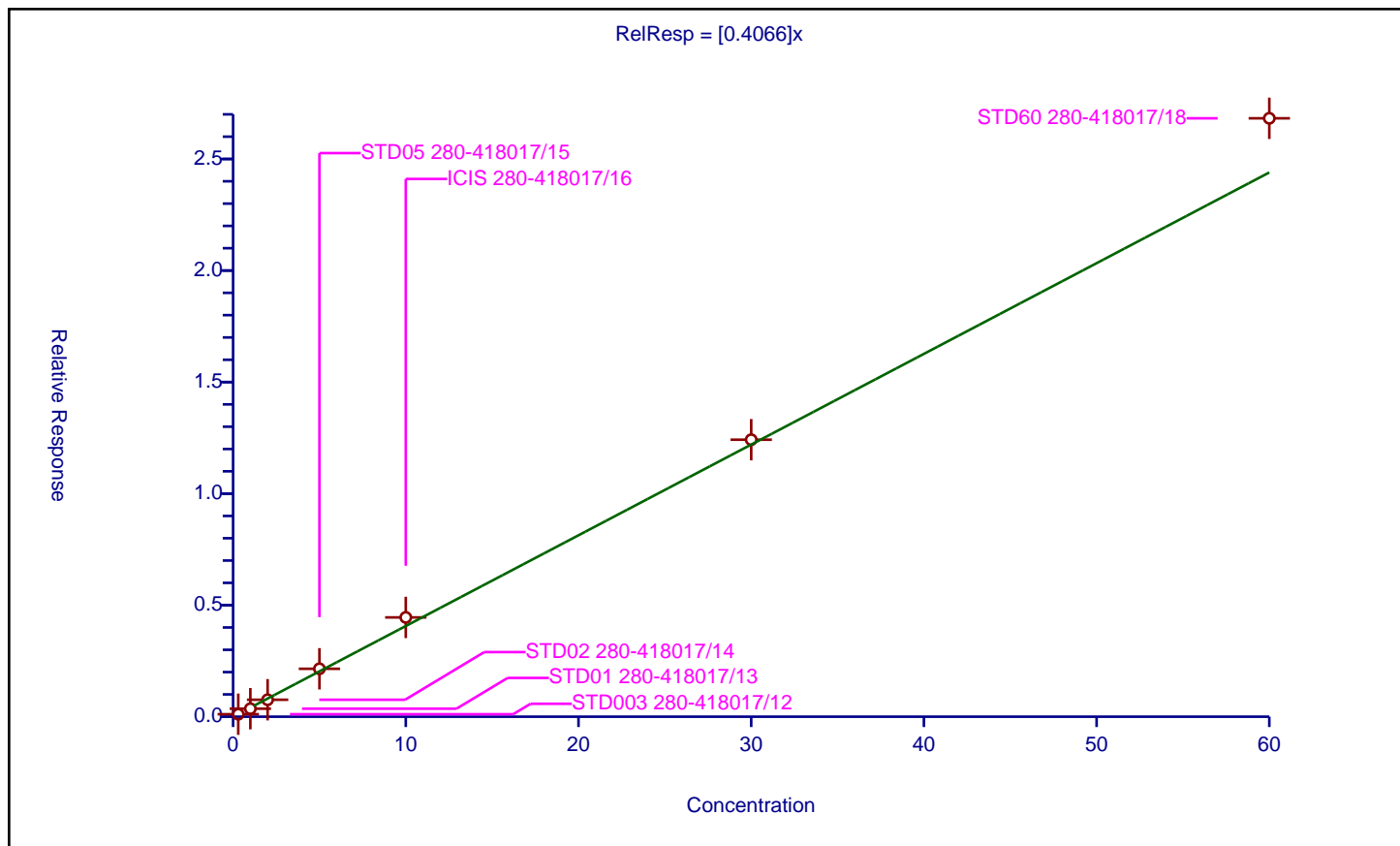
## Curve Coefficients

Intercept: 0  
 Slope: 0.4066

## Error Coefficients

Standard Error: 2230000  
 Relative Standard Error: 8.9  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.111228	12.5	1767873.0	0.370761	Y
2	STD01 280-418017/13	1.0	0.359538	12.5	1820669.0	0.359538	Y
3	STD02 280-418017/14	2.0	0.760363	12.5	1910551.0	0.380182	Y
4	STD05 280-418017/15	5.0	2.148234	12.5	1942264.0	0.429647	Y
5	ICIS 280-418017/16	10.0	4.450626	12.5	2037896.0	0.445063	Y
6	STD30 280-418017/17	30.0	12.417499	12.5	2160431.0	0.413917	Y
7	STD60 280-418017/18	60.0	26.823213	12.5	2310557.0	0.447054	Y





# Calibration

/ Cyclohexane

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

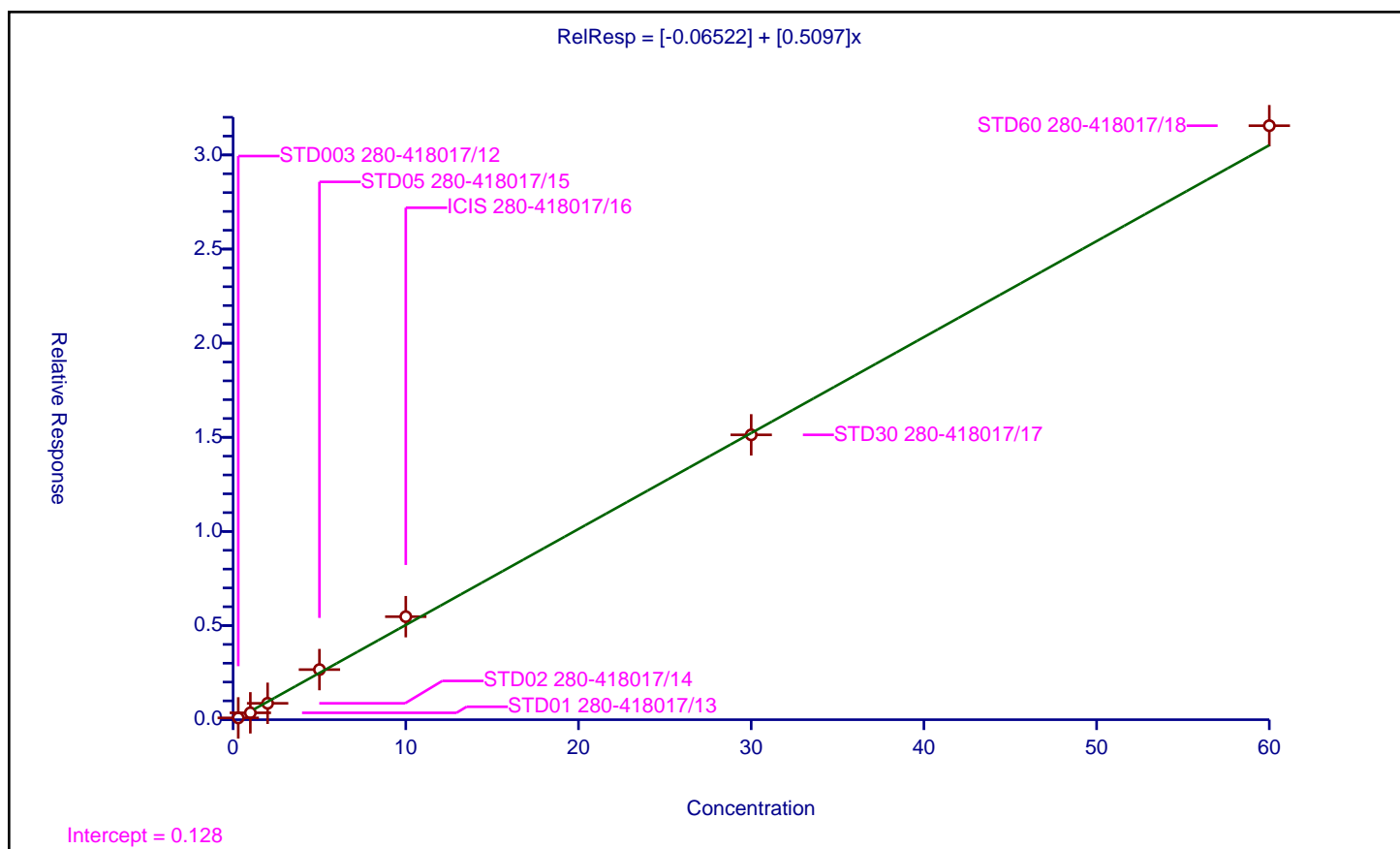
## Curve Coefficients

Intercept: -0.06522  
 Slope: 0.5097

## Error Coefficients

Standard Error: 2890000  
 Relative Standard Error: 9.7  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.095574	12.5	1767873.0	0.31858	Y
2	STD01 280-418017/13	1.0	0.365971	12.5	1820669.0	0.365971	Y
3	STD02 280-418017/14	2.0	0.870626	12.5	1910551.0	0.435313	Y
4	STD05 280-418017/15	5.0	2.66134	12.5	1942264.0	0.532268	Y
5	ICIS 280-418017/16	10.0	5.473476	12.5	2037896.0	0.547348	Y
6	STD30 280-418017/17	30.0	15.131495	12.5	2160431.0	0.504383	Y
7	STD60 280-418017/18	60.0	31.55362	12.5	2310557.0	0.525894	Y





## Calibration

/ 1,1-Dichloropropene

Curve Type: Linear  
Weighting: Conc\_Sq  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

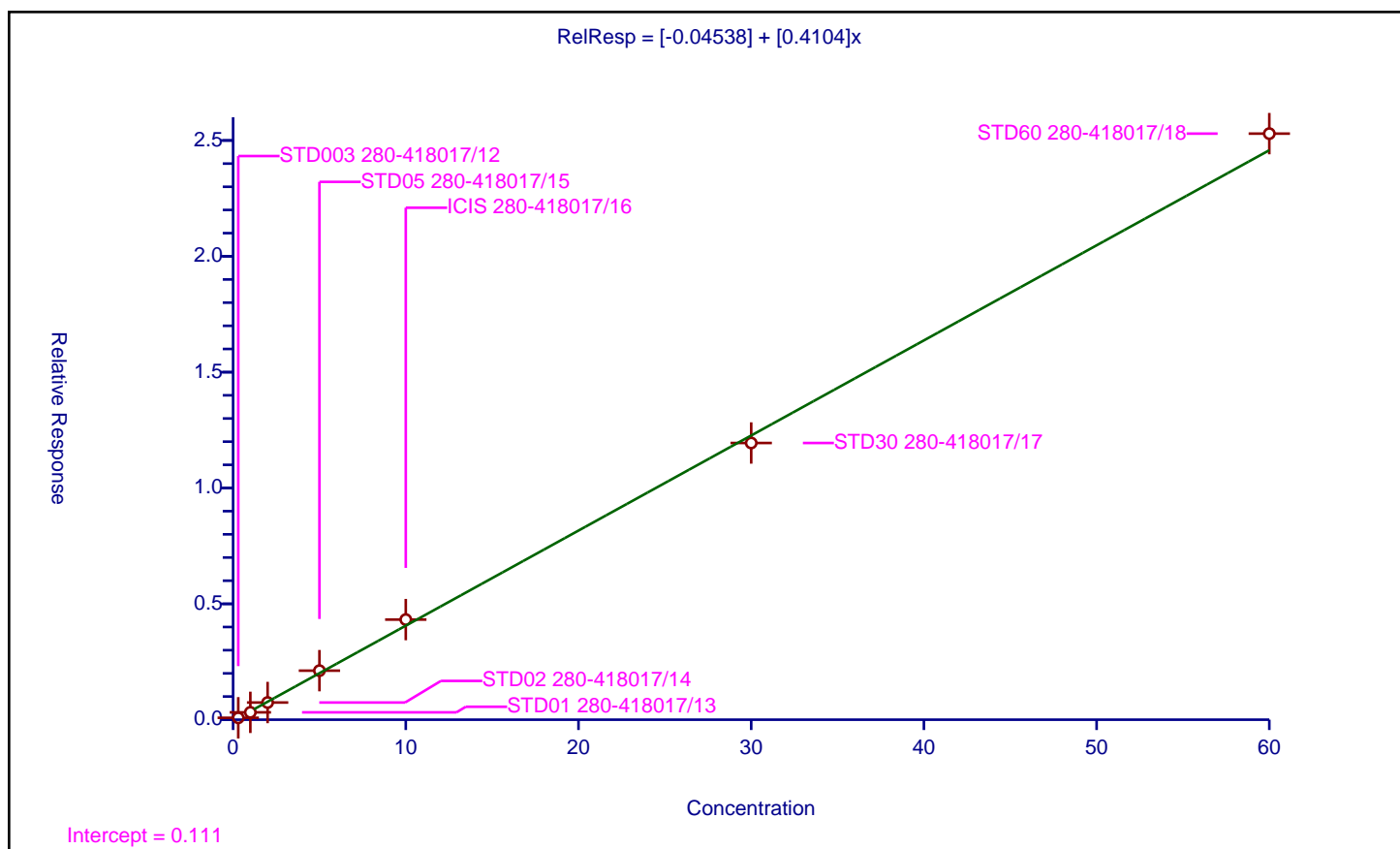
## Curve Coefficients

Intercept: -0.04538  
Slope: 0.4104

## Error Coefficients

Standard Error: 2310000  
Relative Standard Error: 7.0  
Correlation Coefficient: 0.997  
Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.082118	12.5	1767873.0	0.273728	Y
2	STD01 280-418017/13	1.0	0.317871	12.5	1820669.0	0.317871	Y
3	STD02 280-418017/14	2.0	0.741605	12.5	1910551.0	0.370803	Y
4	STD05 280-418017/15	5.0	2.116409	12.5	1942264.0	0.423282	Y
5	ICIS 280-418017/16	10.0	4.321111	12.5	2037896.0	0.432111	Y
6	STD30 280-418017/17	30.0	11.942571	12.5	2160431.0	0.398086	Y
7	STD60 280-418017/18	60.0	25.294999	12.5	2310557.0	0.421583	Y





# Calibration

/ Carbon tetrachloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

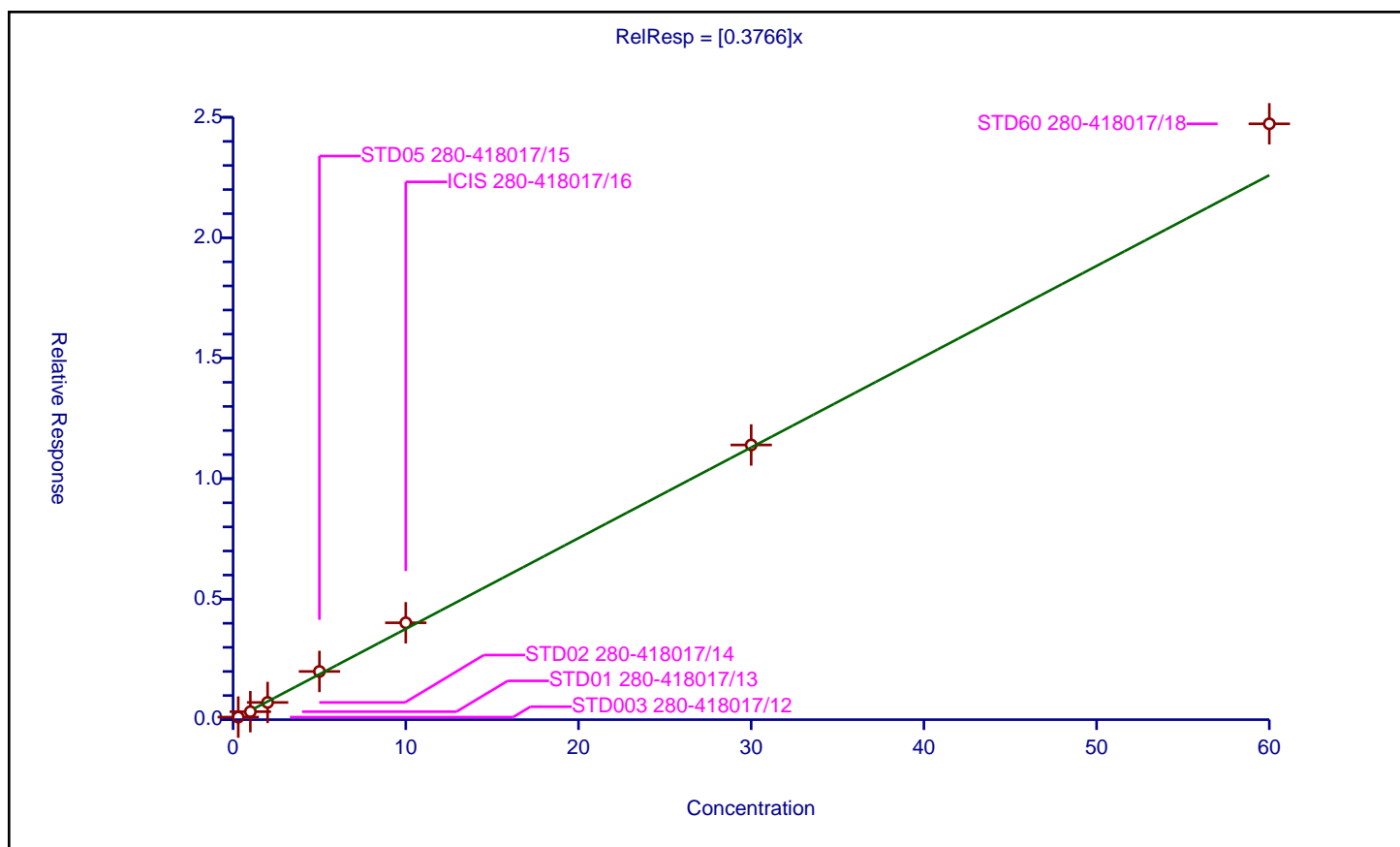
## Curve Coefficients

Intercept: 0  
 Slope: 0.3766

## Error Coefficients

Standard Error: 2050000  
 Relative Standard Error: 8.0  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.106116	12.5	1767873.0	0.353721	Y
2	STD01 280-418017/13	1.0	0.331389	12.5	1820669.0	0.331389	Y
3	STD02 280-418017/14	2.0	0.713865	12.5	1910551.0	0.356932	Y
4	STD05 280-418017/15	5.0	1.999619	12.5	1942264.0	0.399924	Y
5	ICIS 280-418017/16	10.0	4.020838	12.5	2037896.0	0.402084	Y
6	STD30 280-418017/17	30.0	11.399253	12.5	2160431.0	0.379975	Y
7	STD60 280-418017/18	60.0	24.729291	12.5	2310557.0	0.412155	Y





## Calibration

/ 1,2-Dichloroethane-d4 (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

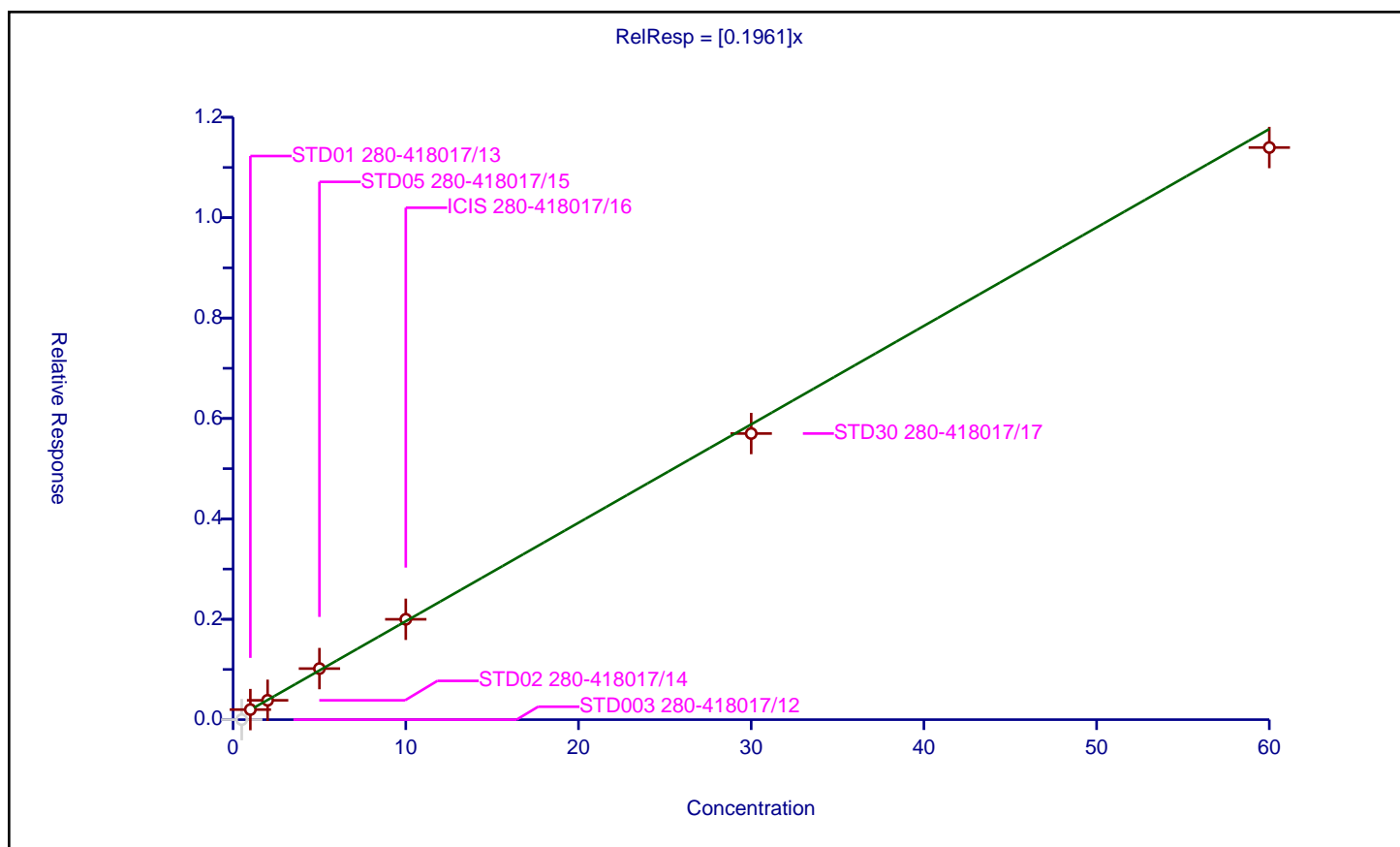
### Curve Coefficients

Intercept: 0  
 Slope: 0.1961

### Error Coefficients

Standard Error: 1050000  
 Relative Standard Error: 3.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.5	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	1.0	0.200709	12.5	1820669.0	0.200709	Y
3	STD02 280-418017/14	2.0	0.385216	12.5	1910551.0	0.192608	Y
4	STD05 280-418017/15	5.0	1.016784	12.5	1942264.0	0.203357	Y
5	ICIS 280-418017/16	10.0	1.999323	12.5	2037896.0	0.199932	Y
6	STD30 280-418017/17	30.0	5.699939	12.5	2160431.0	0.189998	Y
7	STD60 280-418017/18	60.0	11.397614	12.5	2310557.0	0.18996	Y





# Calibration

/ 1,2-Dichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

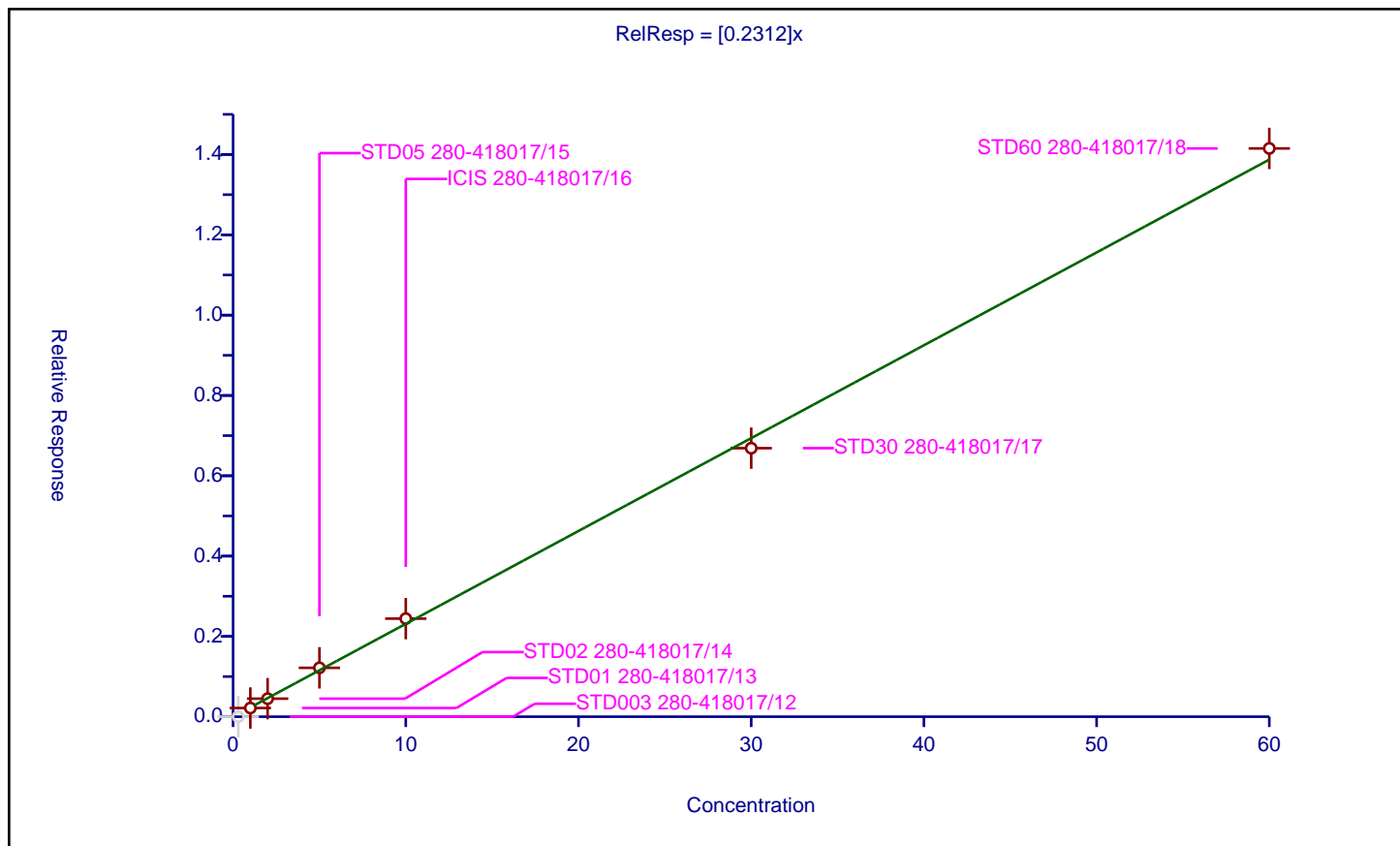
## Curve Coefficients

Intercept: 0  
 Slope: 0.2312

## Error Coefficients

Standard Error: 1290000  
 Relative Standard Error: 5.0  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	1.0	0.216246	12.5	1820669.0	0.216246	Y
3	STD02 280-418017/14	2.0	0.449255	12.5	1910551.0	0.224628	Y
4	STD05 280-418017/15	5.0	1.217413	12.5	1942264.0	0.243483	Y
5	ICIS 280-418017/16	10.0	2.442611	12.5	2037896.0	0.244261	Y
6	STD30 280-418017/17	30.0	6.687439	12.5	2160431.0	0.222915	Y
7	STD60 280-418017/18	60.0	14.151539	12.5	2310557.0	0.235859	Y





## Calibration

/ Benzene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

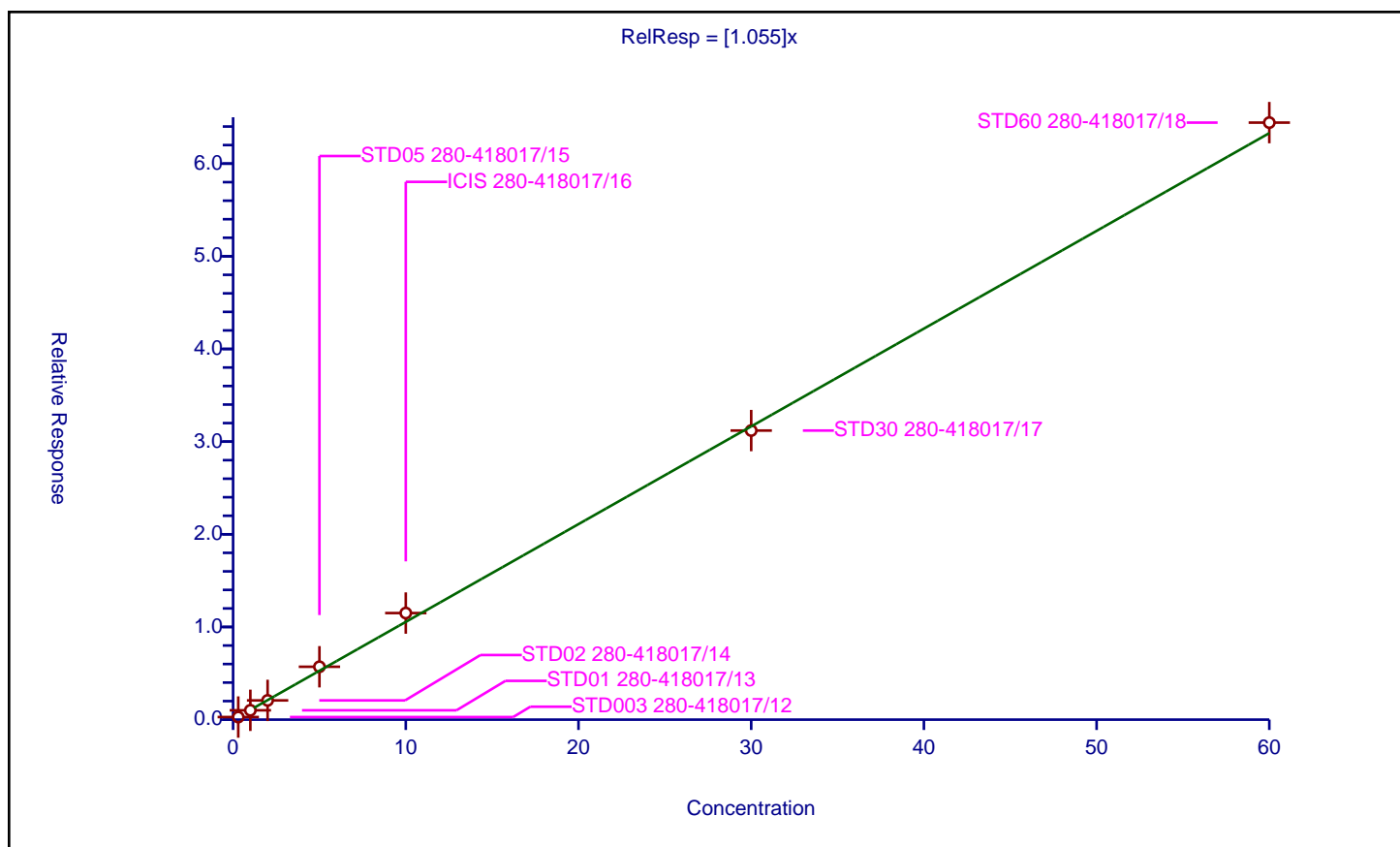
## Curve Coefficients

Intercept: 0  
Slope: 1.055

## Error Coefficients

Standard Error: 5410000  
Relative Standard Error: 7.2  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.27975	12.5	1767873.0	0.9325	Y
2	STD01 280-418017/13	1.0	1.008228	12.5	1820669.0	1.008228	Y
3	STD02 280-418017/14	2.0	2.075658	12.5	1910551.0	1.037829	Y
4	STD05 280-418017/15	5.0	5.70763	12.5	1942264.0	1.141526	Y
5	ICIS 280-418017/16	10.0	11.502666	12.5	2037896.0	1.150267	Y
6	STD30 280-418017/17	30.0	31.194701	12.5	2160431.0	1.039823	Y
7	STD60 280-418017/18	60.0	64.42347	12.5	2310557.0	1.073725	Y





# Calibration

/ n-Heptane

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

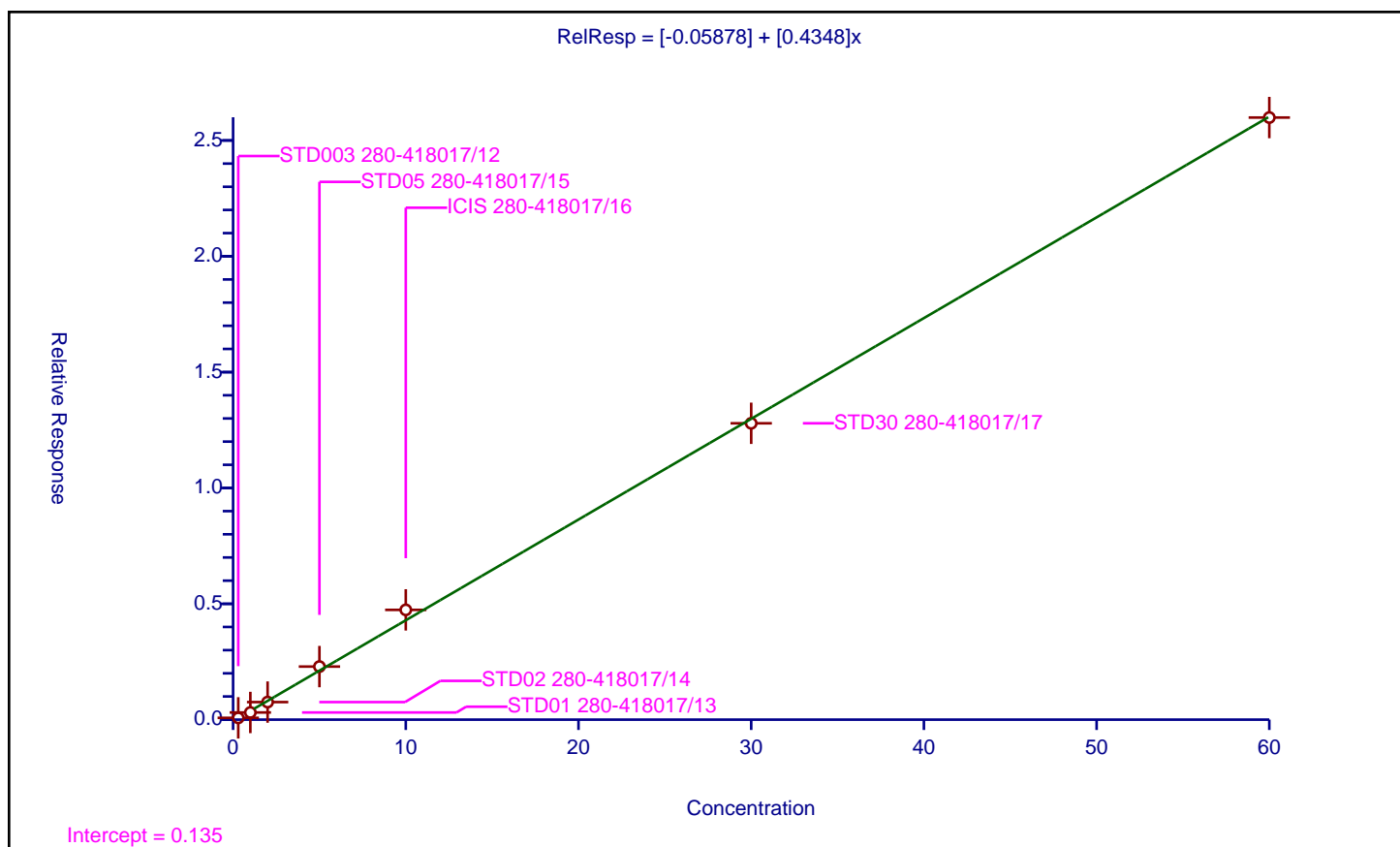
## Curve Coefficients

Intercept: -0.05878  
 Slope: 0.4348

## Error Coefficients

Standard Error: 2400000  
 Relative Standard Error: 9.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.077862	12.5	1767873.0	0.25954	Y
2	STD01 280-418017/13	1.0	0.309069	12.5	1820669.0	0.309069	Y
3	STD02 280-418017/14	2.0	0.757471	12.5	1910551.0	0.378736	Y
4	STD05 280-418017/15	5.0	2.290253	12.5	1942264.0	0.458051	Y
5	ICIS 280-418017/16	10.0	4.738104	12.5	2037896.0	0.47381	Y
6	STD30 280-418017/17	30.0	12.791348	12.5	2160431.0	0.426378	Y
7	STD60 280-418017/18	60.0	25.98842	12.5	2310557.0	0.43314	Y





# Calibration

/ Trichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

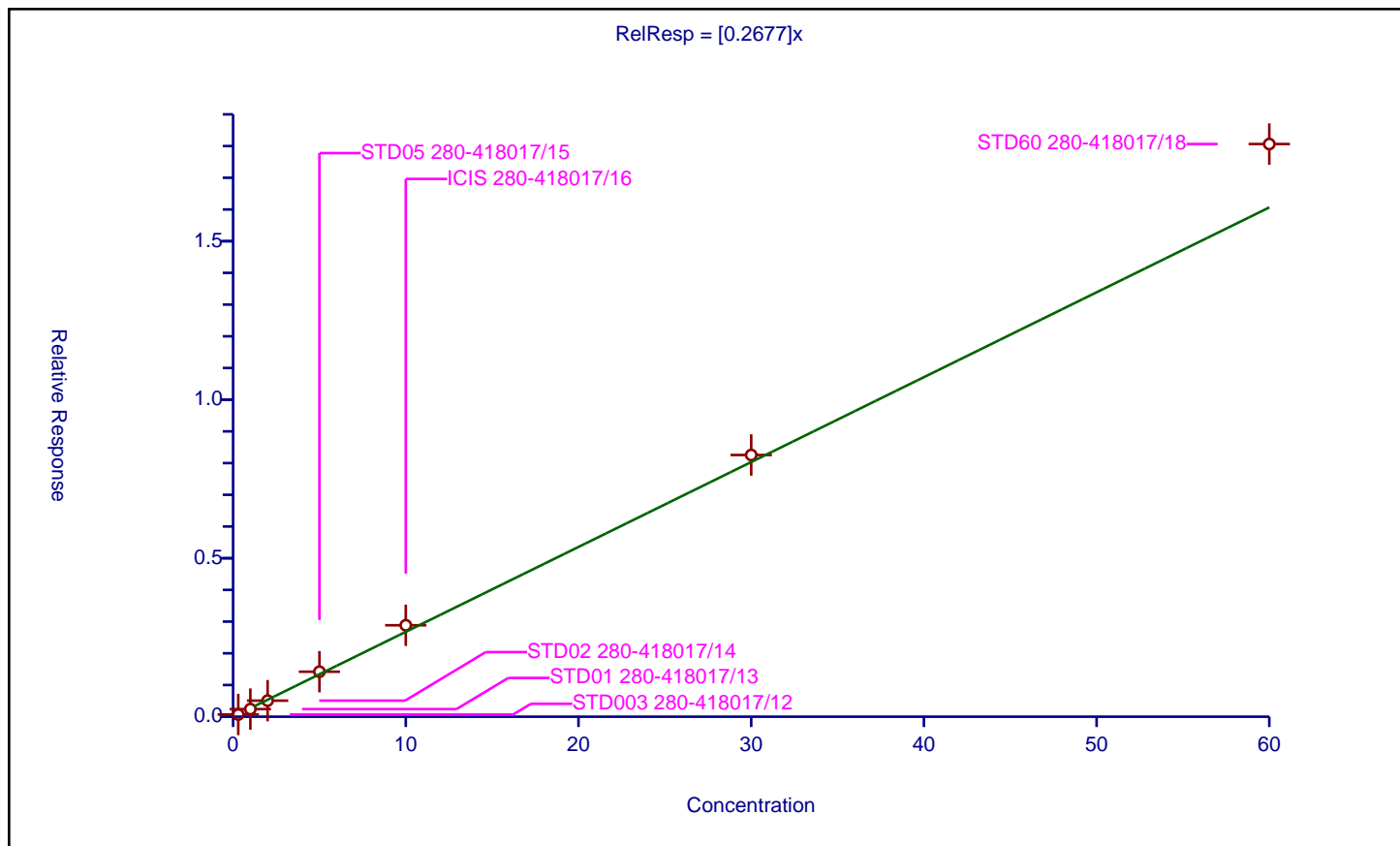
## Curve Coefficients

Intercept: 0  
 Slope: 0.2677

## Error Coefficients

Standard Error: 1500000  
 Relative Standard Error: 9.7  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.069794	12.5	1767873.0	0.232648	Y
2	STD01 280-418017/13	1.0	0.239706	12.5	1820669.0	0.239706	Y
3	STD02 280-418017/14	2.0	0.506516	12.5	1910551.0	0.253258	Y
4	STD05 280-418017/15	5.0	1.419613	12.5	1942264.0	0.283923	Y
5	ICIS 280-418017/16	10.0	2.884372	12.5	2037896.0	0.288437	Y
6	STD30 280-418017/17	30.0	8.255639	12.5	2160431.0	0.275188	Y
7	STD60 280-418017/18	60.0	18.063902	12.5	2310557.0	0.301065	Y





## Calibration

/ 2-Pentanone

Curve Type: Linear  
Weighting: Conc\_Sq  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

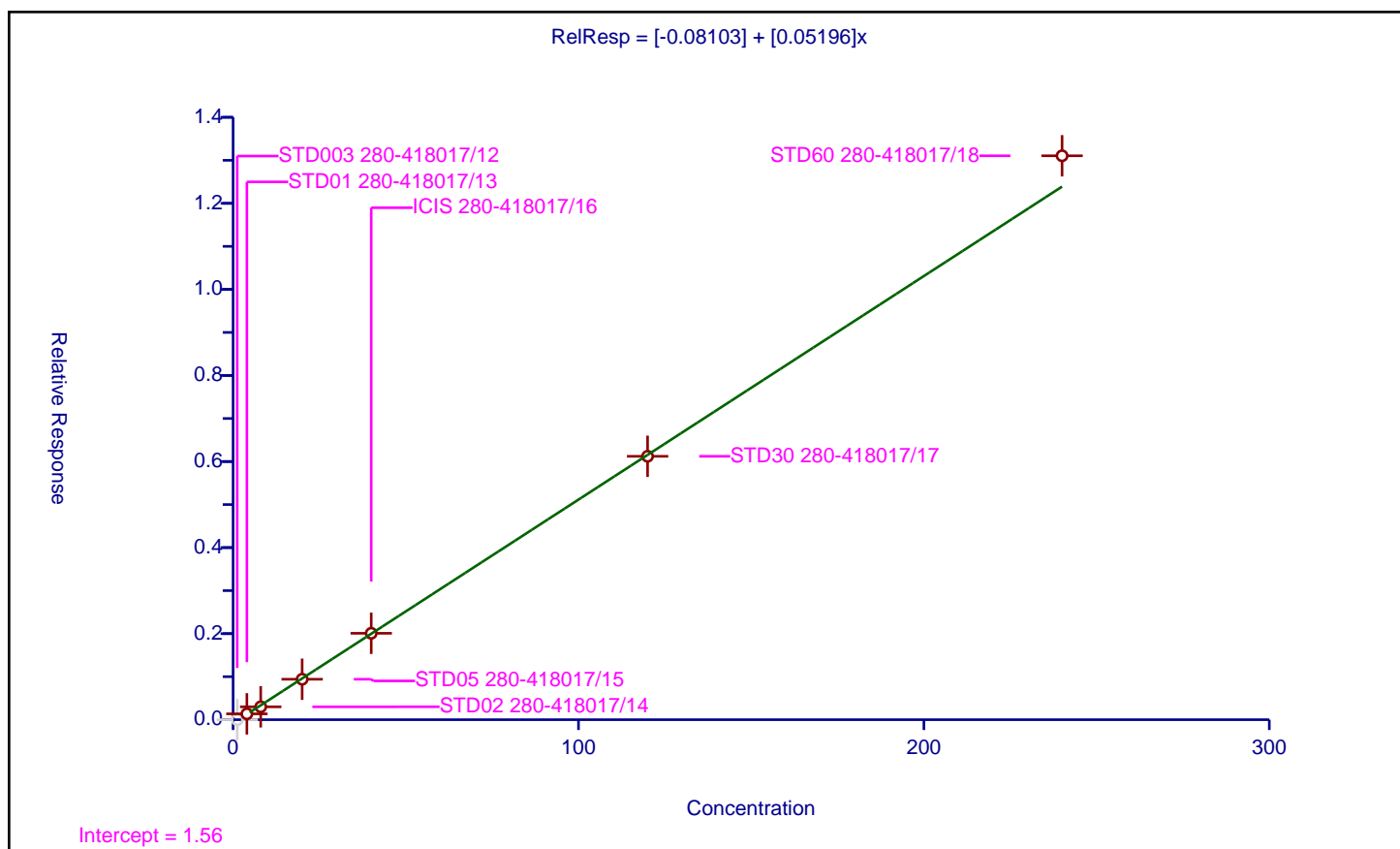
## Curve Coefficients

Intercept: -0.08103  
Slope: 0.05196

## Error Coefficients

Standard Error: 1330000  
Relative Standard Error: 5.7  
Correlation Coefficient: 0.997  
Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	1.2	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	4.0	0.136035	12.5	1820669.0	0.034009	Y
3	STD02 280-418017/14	8.0	0.299488	12.5	1910551.0	0.037436	Y
4	STD05 280-418017/15	20.0	0.940082	12.5	1942264.0	0.047004	Y
5	ICIS 280-418017/16	40.0	2.008119	12.5	2037896.0	0.050203	Y
6	STD30 280-418017/17	120.0	6.121429	12.5	2160431.0	0.051012	Y
7	STD60 280-418017/18	240.0	13.105114	12.5	2310557.0	0.054605	Y





## Calibration

/ 1,2-Dichloropropane

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

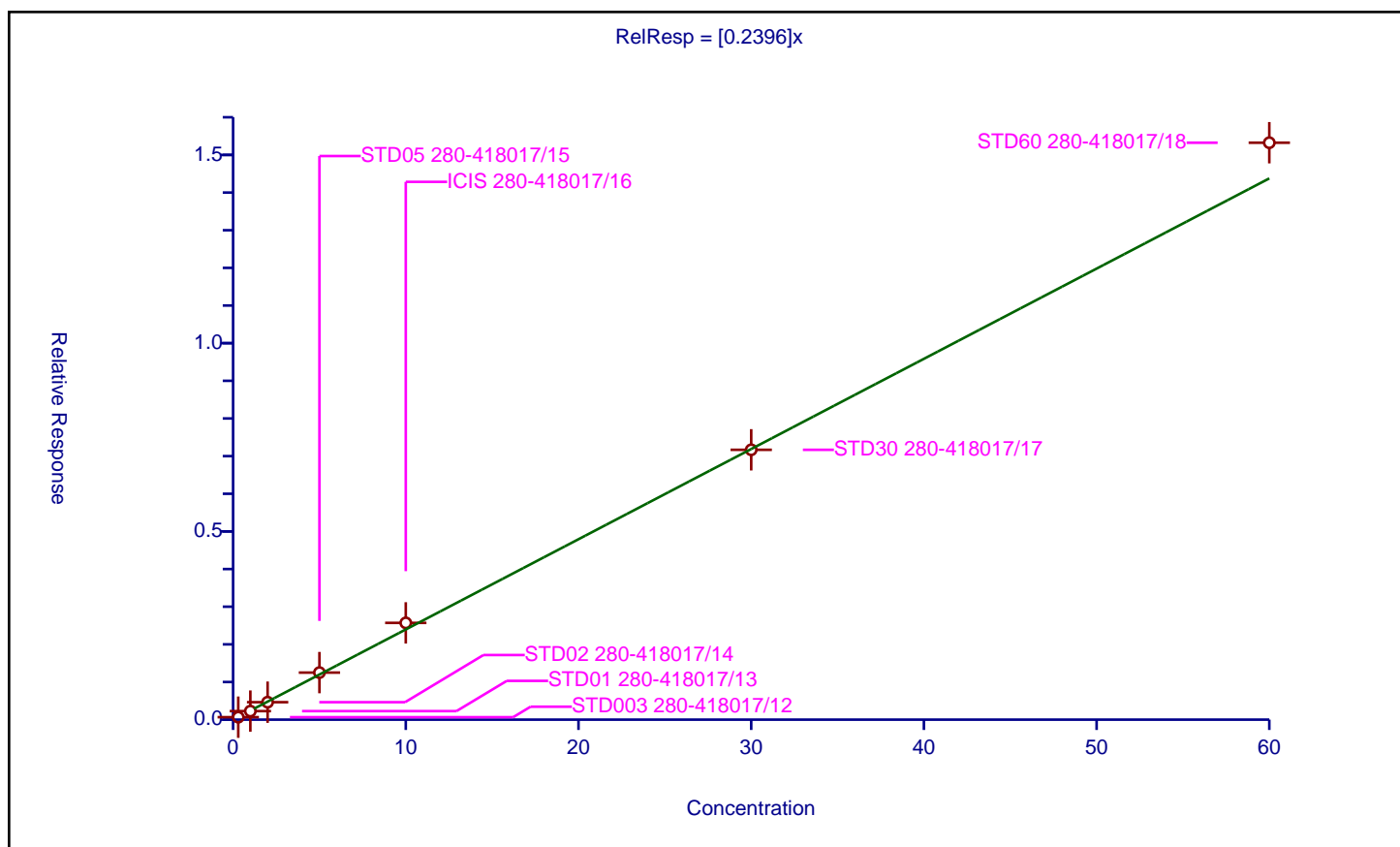
## Curve Coefficients

Intercept: 0  
Slope: 0.2396

## Error Coefficients

Standard Error: 1280000  
Relative Standard Error: 6.3  
Correlation Coefficient: 0.997  
Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.065213	12.5	1767873.0	0.217375	Y
2	STD01 280-418017/13	1.0	0.226675	12.5	1820669.0	0.226675	Y
3	STD02 280-418017/14	2.0	0.463845	12.5	1910551.0	0.231923	Y
4	STD05 280-418017/15	5.0	1.249721	12.5	1942264.0	0.249944	Y
5	ICIS 280-418017/16	10.0	2.570145	12.5	2037896.0	0.257014	Y
6	STD30 280-418017/17	30.0	7.167355	12.5	2160431.0	0.238912	Y
7	STD60 280-418017/18	60.0	15.324173	12.5	2310557.0	0.255403	Y





## Calibration

/ Methylcyclohexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

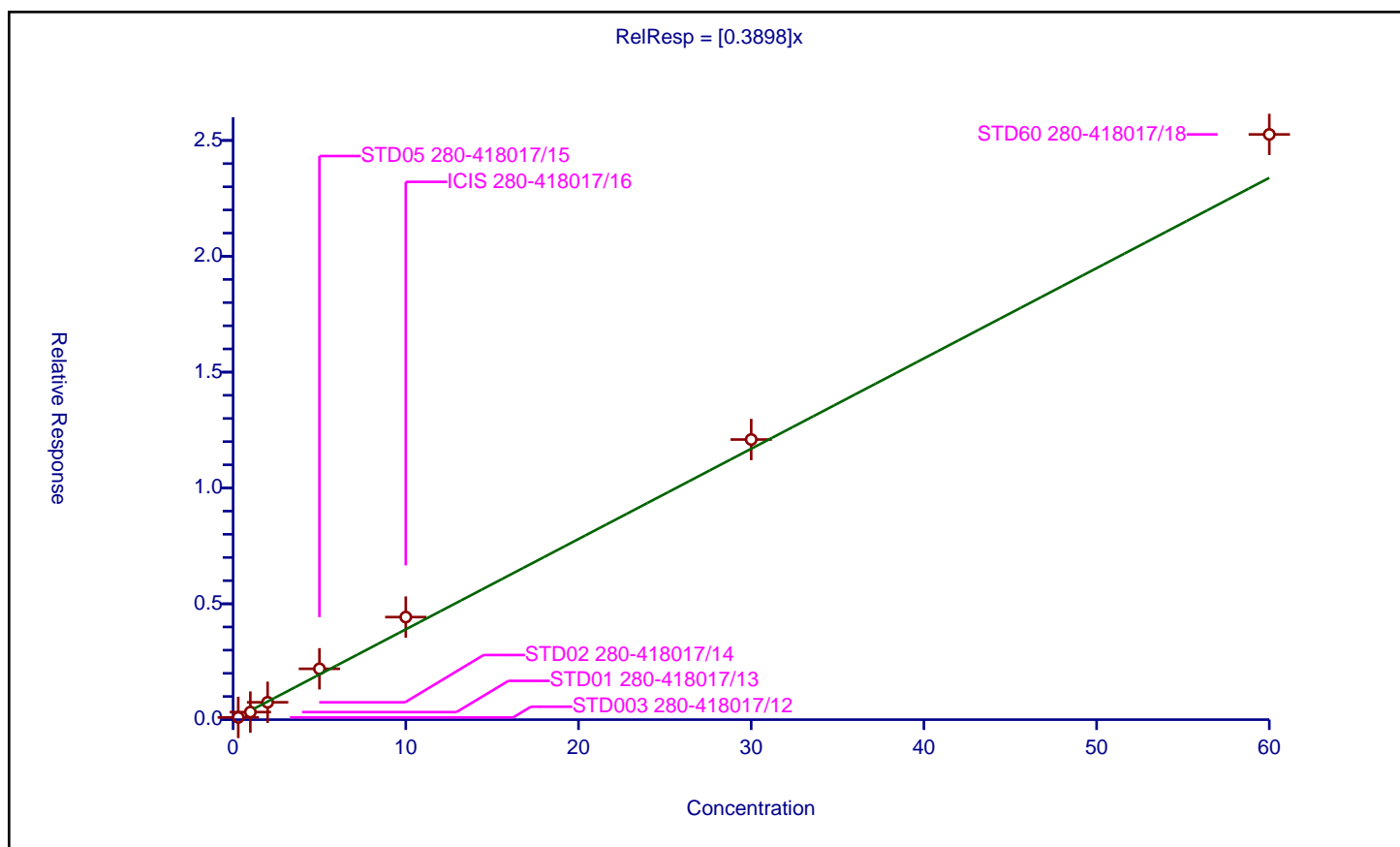
### Curve Coefficients

Intercept: 0  
 Slope: 0.3898

### Error Coefficients

Standard Error: 2110000  
 Relative Standard Error: 12.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.982

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.09679	12.5	1767873.0	0.322633	Y
2	STD01 280-418017/13	1.0	0.325753	12.5	1820669.0	0.325753	Y
3	STD02 280-418017/14	2.0	0.748573	12.5	1910551.0	0.374287	Y
4	STD05 280-418017/15	5.0	2.194932	12.5	1942264.0	0.438986	Y
5	ICIS 280-418017/16	10.0	4.426618	12.5	2037896.0	0.442662	Y
6	STD30 280-418017/17	30.0	12.091175	12.5	2160431.0	0.403039	Y
7	STD60 280-418017/18	60.0	25.259429	12.5	2310557.0	0.42099	Y





# Calibration

/ 1,4-Dioxane

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

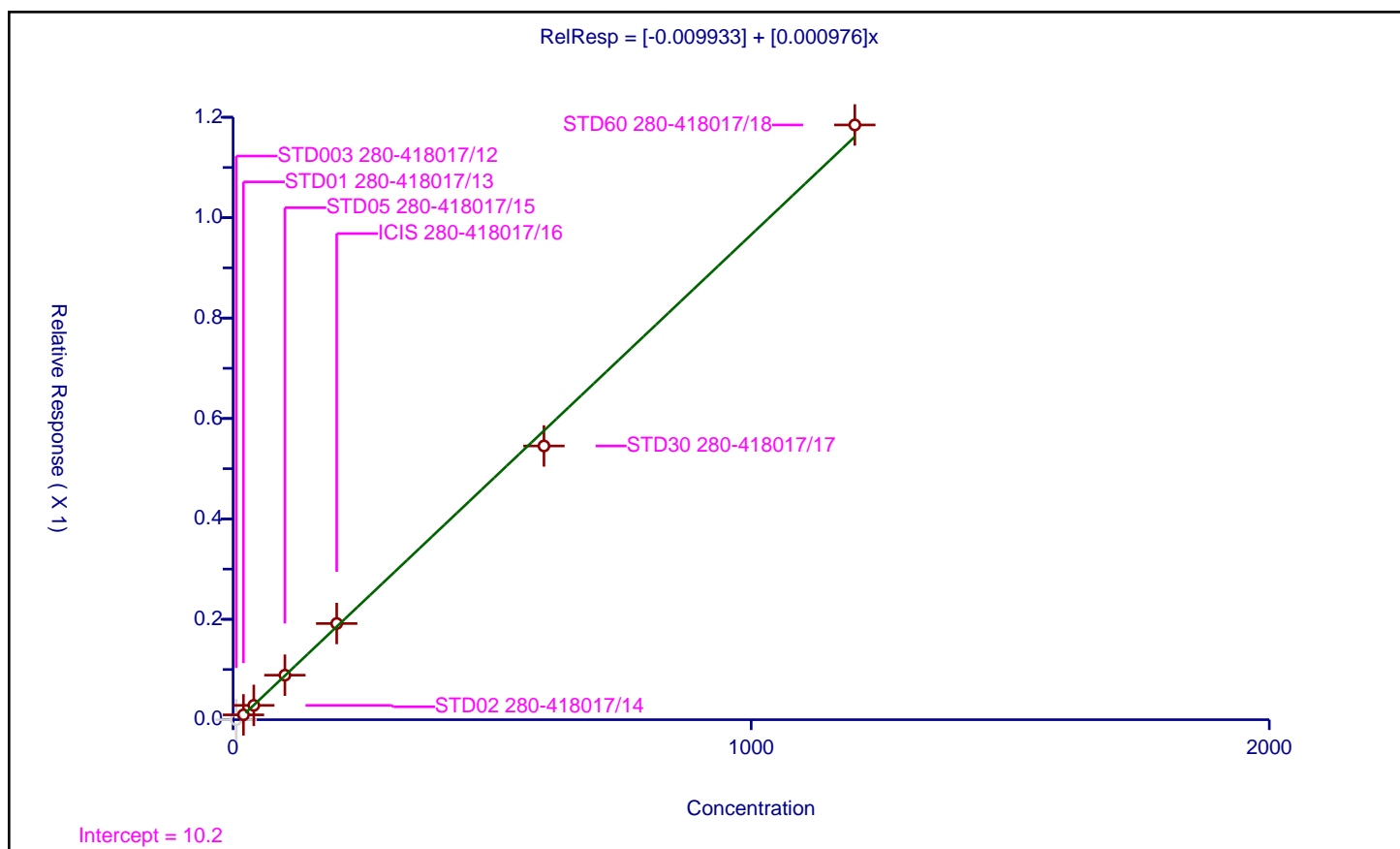
## Curve Coefficients

Intercept: -0.009933  
 Slope: 0.000976

## Error Coefficients

Standard Error: 120000  
 Relative Standard Error: 3.3  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	6.0	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	20.0	0.009646	12.5	1820669.0	0.000482	Y
3	STD02 280-418017/14	40.0	0.028572	12.5	1910551.0	0.000714	Y
4	STD05 280-418017/15	100.0	0.088672	12.5	1942264.0	0.000887	Y
5	ICIS 280-418017/16	200.0	0.191613	12.5	2037896.0	0.000958	Y
6	STD30 280-418017/17	600.0	0.545267	12.5	2160431.0	0.000909	Y
7	STD60 280-418017/18	1200.0	1.184741	12.5	2310557.0	0.000987	Y





# Calibration

/ Dibromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

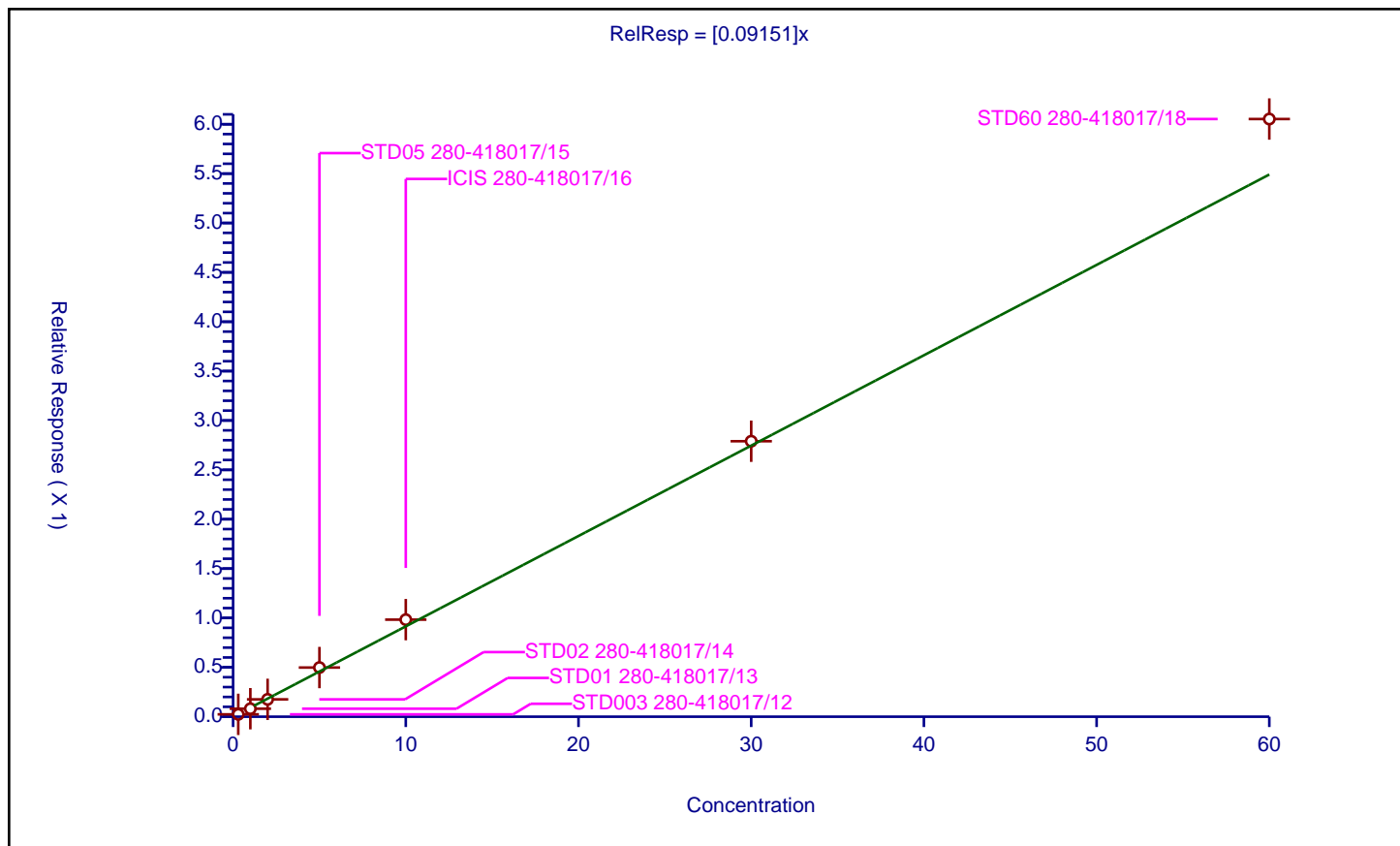
## Curve Coefficients

Intercept: 0  
 Slope: 0.09151

## Error Coefficients

Standard Error: 503000  
 Relative Standard Error: 9.6  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.023984	12.5	1767873.0	0.079945	Y
2	STD01 280-418017/13	1.0	0.080918	12.5	1820669.0	0.080918	Y
3	STD02 280-418017/14	2.0	0.175846	12.5	1910551.0	0.087923	Y
4	STD05 280-418017/15	5.0	0.497956	12.5	1942264.0	0.099591	Y
5	ICIS 280-418017/16	10.0	0.983048	12.5	2037896.0	0.098305	Y
6	STD30 280-418017/17	30.0	2.789964	12.5	2160431.0	0.092999	Y
7	STD60 280-418017/18	60.0	6.052778	12.5	2310557.0	0.10088	Y





# Calibration

/ Dichlorobromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

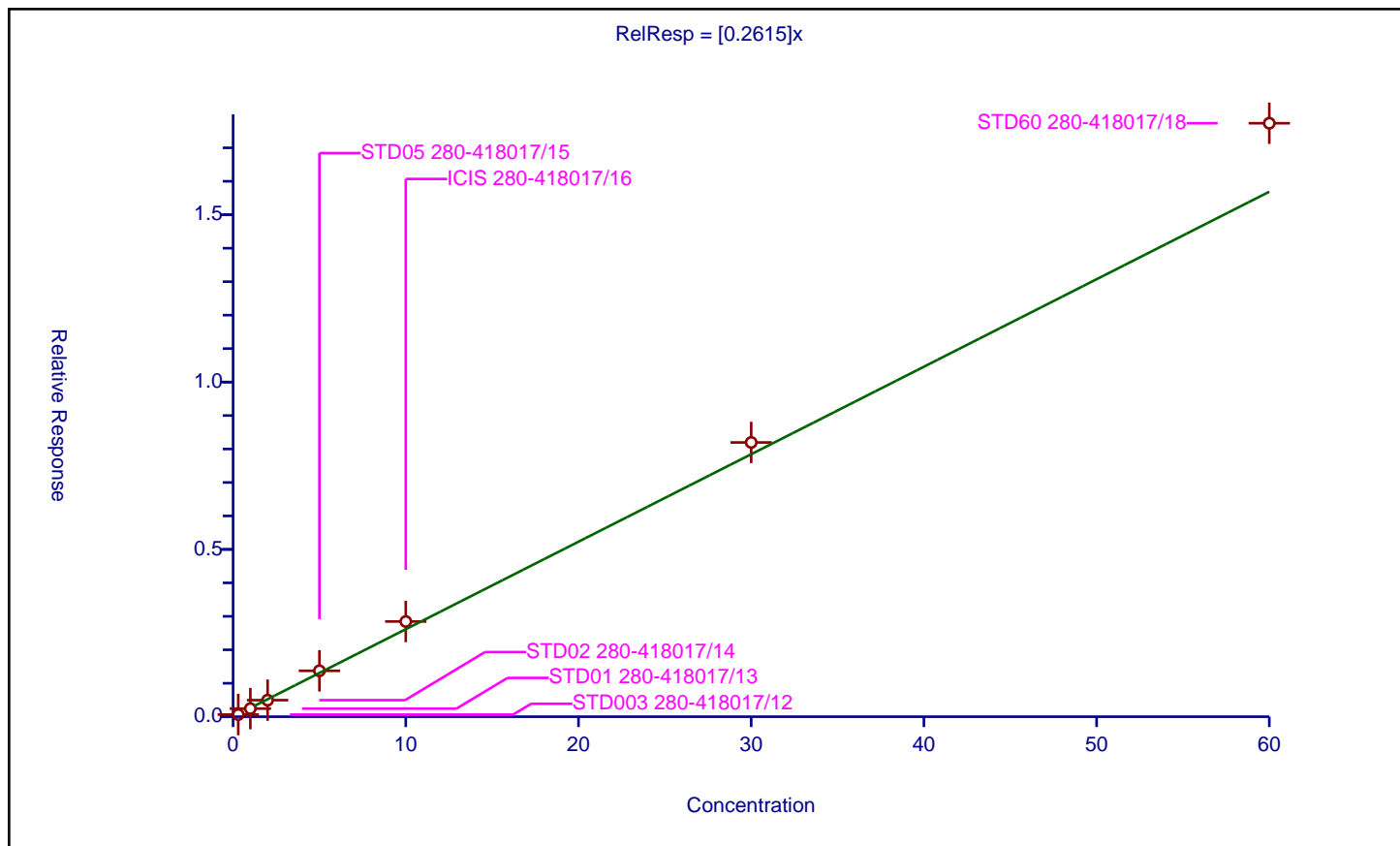
## Curve Coefficients

Intercept: 0  
 Slope: 0.2615

## Error Coefficients

Standard Error: 1470000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.063989	12.5	1767873.0	0.213298	Y
2	STD01 280-418017/13	1.0	0.242068	12.5	1820669.0	0.242068	Y
3	STD02 280-418017/14	2.0	0.494334	12.5	1910551.0	0.247167	Y
4	STD05 280-418017/15	5.0	1.372239	12.5	1942264.0	0.274448	Y
5	ICIS 280-418017/16	10.0	2.845226	12.5	2037896.0	0.284523	Y
6	STD30 280-418017/17	30.0	8.19546	12.5	2160431.0	0.273182	Y
7	STD60 280-418017/18	60.0	17.734355	12.5	2310557.0	0.295573	Y





# Calibration

/ 2-Chloroethyl vinyl ether

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

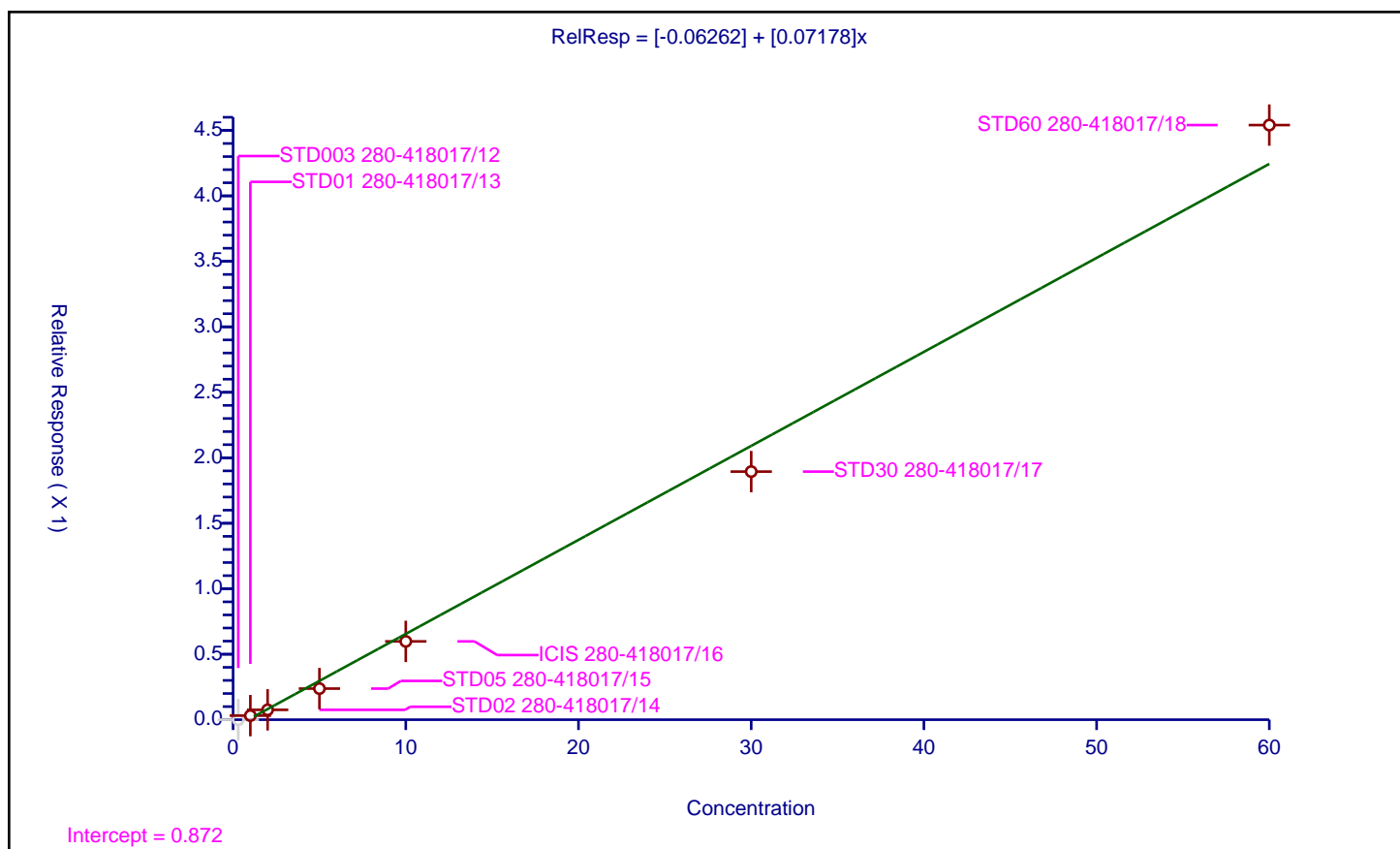
## Curve Coefficients

Intercept: -0.06262  
 Slope: 0.07178

## Error Coefficients

Standard Error: 453000  
 Relative Standard Error: 18.8  
 Correlation Coefficient: 0.990  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.0	12.5	1767873.0	0.0	N
2	STD01 280-418017/13	1.0	0.03106	12.5	1820669.0	0.03106	Y
3	STD02 280-418017/14	2.0	0.075345	12.5	1910551.0	0.037672	Y
4	STD05 280-418017/15	5.0	0.237481	12.5	1942264.0	0.047496	Y
5	ICIS 280-418017/16	10.0	0.597822	12.5	2037896.0	0.059782	Y
6	STD30 280-418017/17	30.0	1.894385	12.5	2160431.0	0.063146	Y
7	STD60 280-418017/18	60.0	4.54041	12.5	2310557.0	0.075673	Y





## Calibration

/ cis-1,3-Dichloropropene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

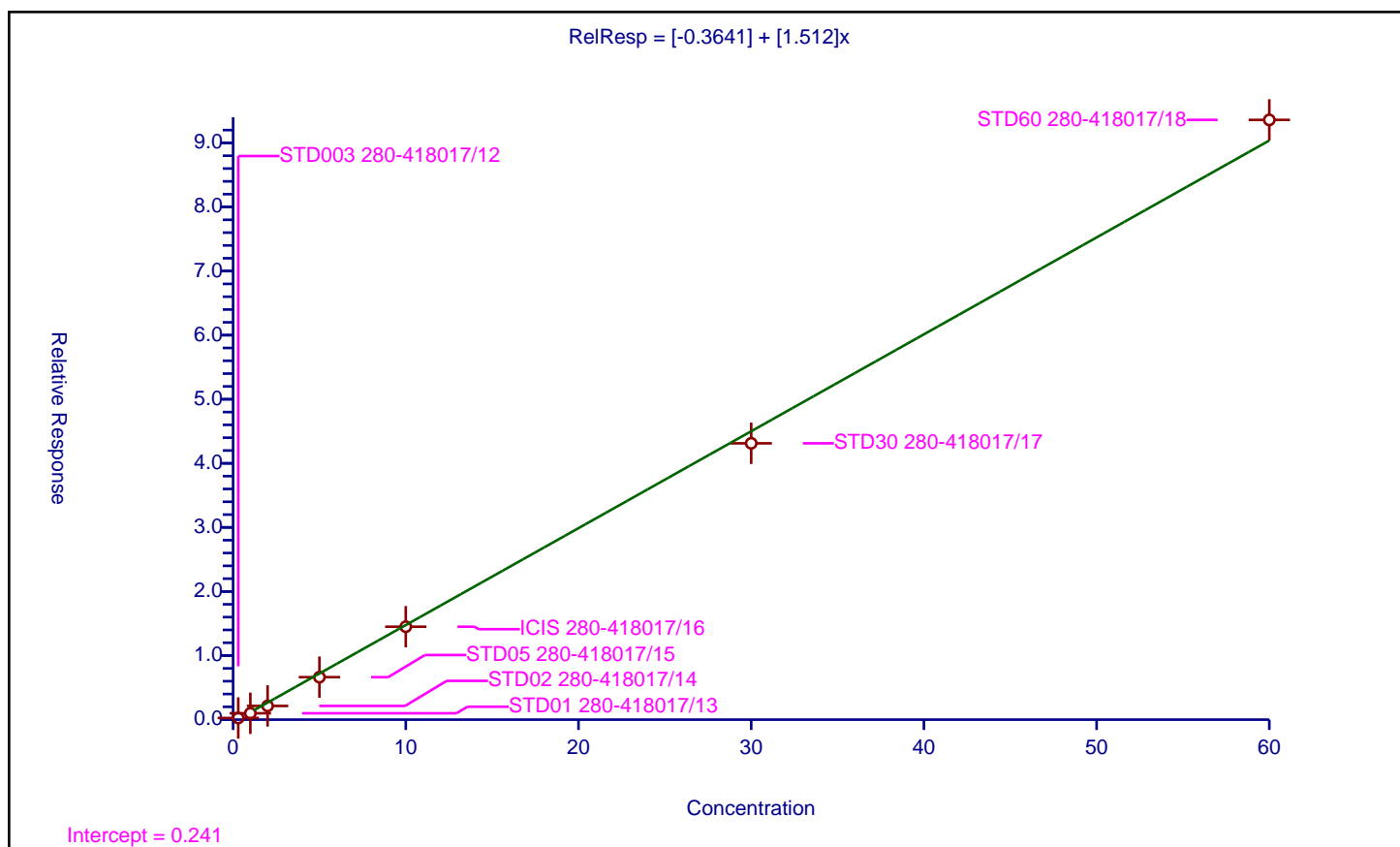
### Curve Coefficients

Intercept: -0.3641  
 Slope: 1.512

### Error Coefficients

Standard Error: 1860000  
 Relative Standard Error: 19.4  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.258369	12.5	360337.0	0.861231	Y
2	STD01 280-418017/13	1.0	0.994595	12.5	376623.0	0.994595	Y
3	STD02 280-418017/14	2.0	2.140557	12.5	404550.0	1.070279	Y
4	STD05 280-418017/15	5.0	6.626452	12.5	413449.0	1.32529	Y
5	ICIS 280-418017/16	10.0	14.497901	12.5	435895.0	1.44979	Y
6	STD30 280-418017/17	30.0	43.119254	12.5	467680.0	1.437308	Y
7	STD60 280-418017/18	60.0	93.591346	12.5	506212.0	1.559856	Y





# Calibration

/ 4-Methyl-2-pentanone (MIBK)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

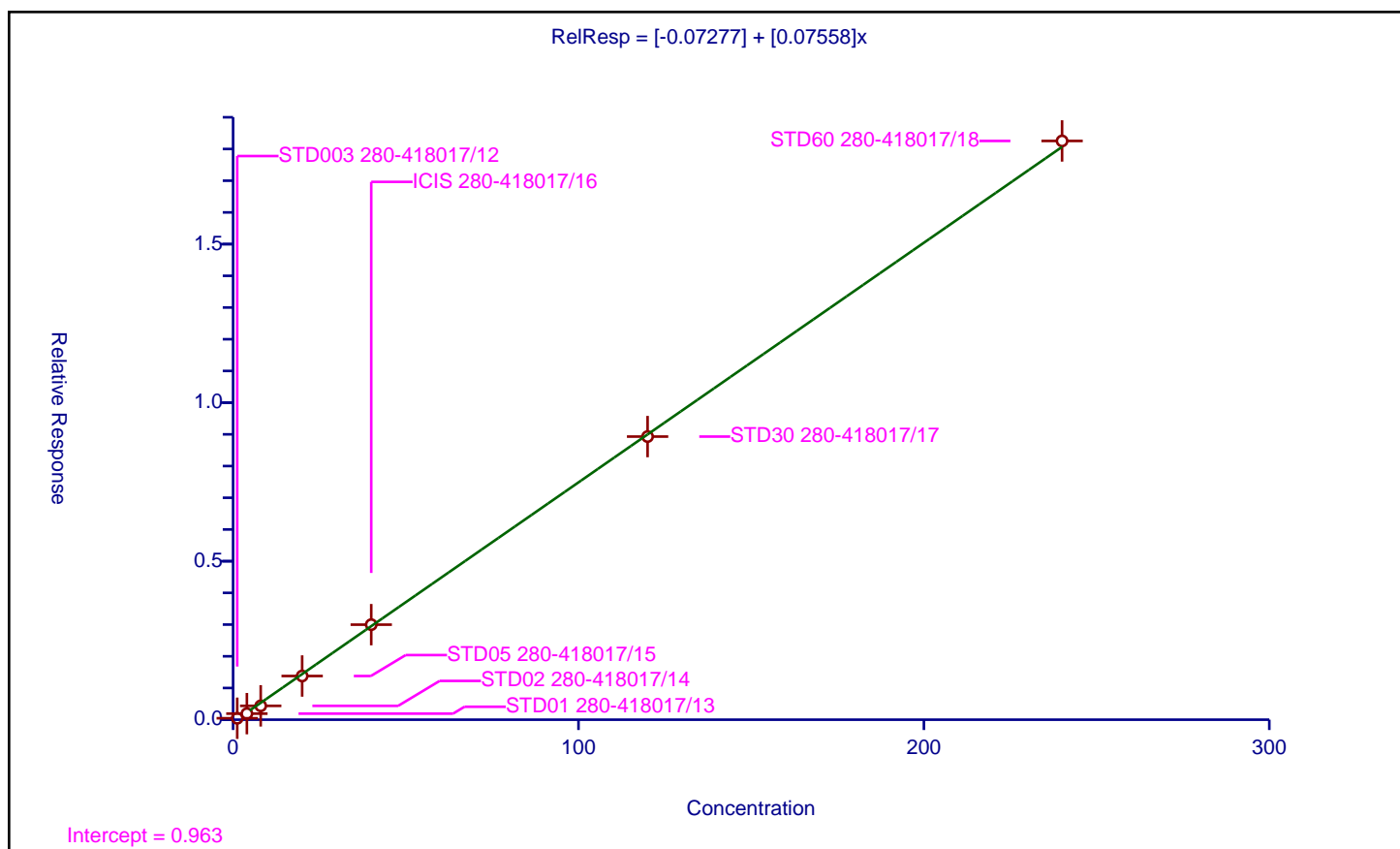
## Curve Coefficients

Intercept: -0.07277  
 Slope: 0.07558

## Error Coefficients

Standard Error: 1680000  
 Relative Standard Error: 16.6  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	1.2	0.045832	12.5	1767873.0	0.038193	Y
2	STD01 280-418017/13	4.0	0.190987	12.5	1820669.0	0.047747	Y
3	STD02 280-418017/14	8.0	0.436098	12.5	1910551.0	0.054512	Y
4	STD05 280-418017/15	20.0	1.377716	12.5	1942264.0	0.068886	Y
5	ICIS 280-418017/16	40.0	2.998	12.5	2037896.0	0.07495	Y
6	STD30 280-418017/17	120.0	8.929729	12.5	2160431.0	0.074414	Y
7	STD60 280-418017/18	240.0	18.253477	12.5	2310557.0	0.076056	Y





## Calibration

/ Toluene-d8 (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

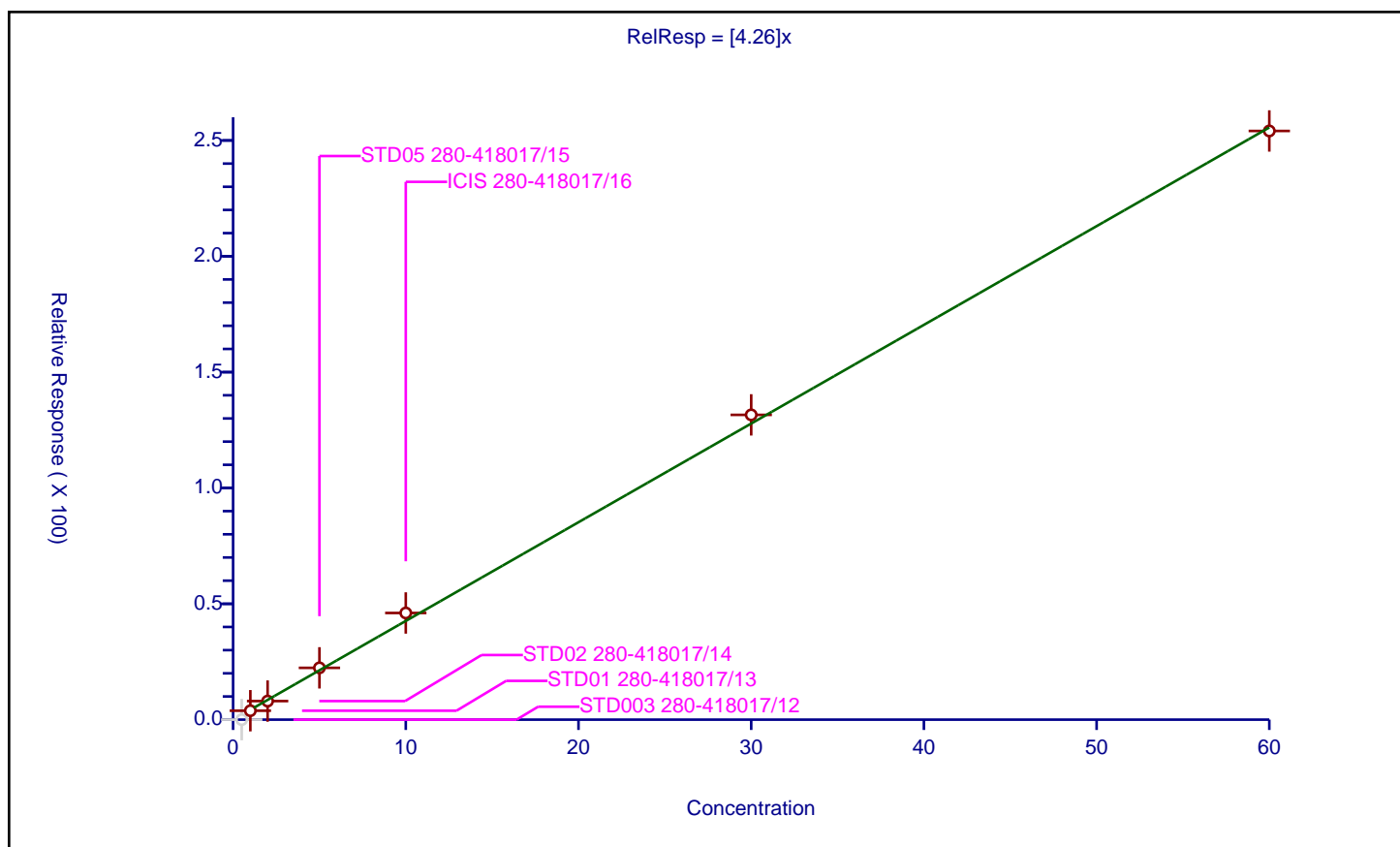
### Curve Coefficients

Intercept: 0  
 Slope: 4.26

### Error Coefficients

Standard Error: 5160000  
 Relative Standard Error: 6.7  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.5	0.0	12.5	360337.0	0.0	N
2	STD01 280-418017/13	1.0	3.854319	12.5	376623.0	3.854319	Y
3	STD02 280-418017/14	2.0	8.01996	12.5	404550.0	4.00998	Y
4	STD05 280-418017/15	5.0	22.358773	12.5	413449.0	4.471755	Y
5	ICIS 280-418017/16	10.0	46.041937	12.5	435895.0	4.604194	Y
6	STD30 280-418017/17	30.0	131.555925	12.5	467680.0	4.385197	Y
7	STD60 280-418017/18	60.0	254.094258	12.5	506212.0	4.234904	Y





## Calibration

/ Toluene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

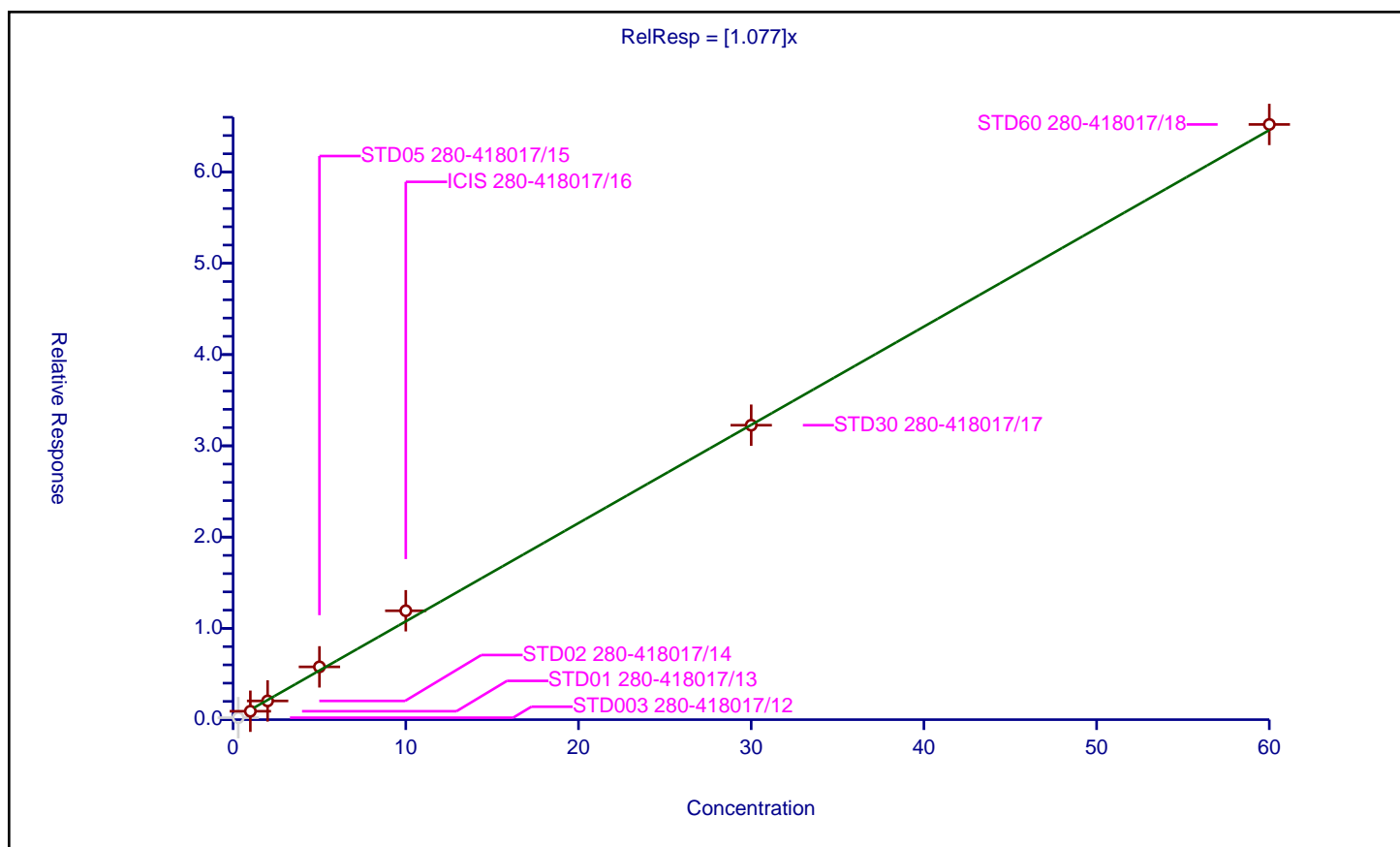
## Curve Coefficients

Intercept: 0  
Slope: 1.077

## Error Coefficients

Standard Error: 6020000  
Relative Standard Error: 9.0  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.216256	12.5	1767873.0	0.720852	N
2	STD01 280-418017/13	1.0	0.920966	12.5	1820669.0	0.920966	Y
3	STD02 280-418017/14	2.0	2.052549	12.5	1910551.0	1.026275	Y
4	STD05 280-418017/15	5.0	5.783888	12.5	1942264.0	1.156778	Y
5	ICIS 280-418017/16	10.0	11.931859	12.5	2037896.0	1.193186	Y
6	STD30 280-418017/17	30.0	32.260287	12.5	2160431.0	1.075343	Y
7	STD60 280-418017/18	60.0	65.214465	12.5	2310557.0	1.086908	Y





## Calibration

/ Ethyl methacrylate

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

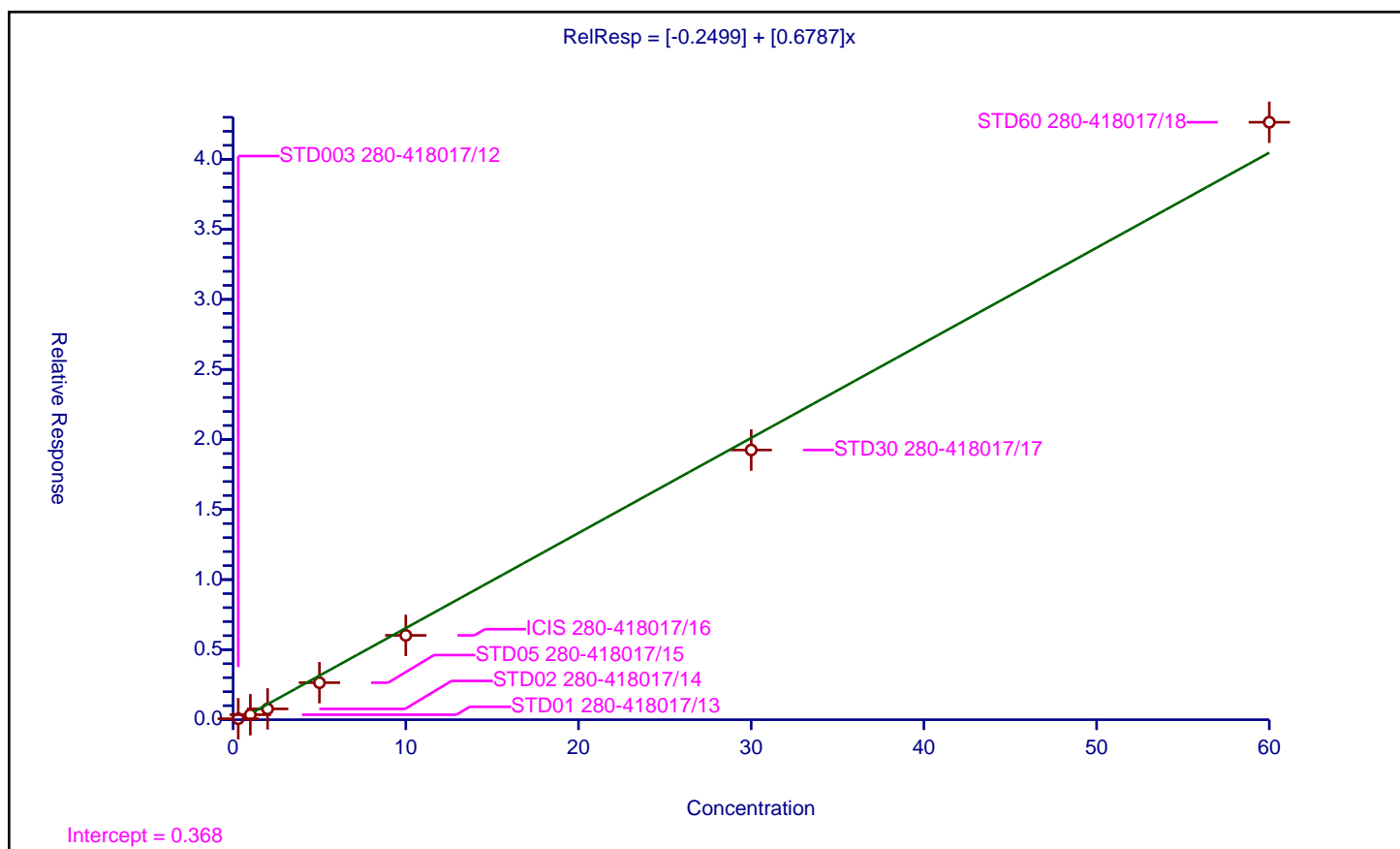
## Curve Coefficients

Intercept: -0.2499  
Slope: 0.6787

## Error Coefficients

Standard Error: 843000  
Relative Standard Error: 29.4  
Correlation Coefficient: 0.994  
Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.069761	12.5	360337.0	0.232537	Y
2	STD01 280-418017/13	1.0	0.354897	12.5	376623.0	0.354897	Y
3	STD02 280-418017/14	2.0	0.770578	12.5	404550.0	0.385289	Y
4	STD05 280-418017/15	5.0	2.64171	12.5	413449.0	0.528342	Y
5	ICIS 280-418017/16	10.0	6.01954	12.5	435895.0	0.601954	Y
6	STD30 280-418017/17	30.0	19.251705	12.5	467680.0	0.641724	Y
7	STD60 280-418017/18	60.0	42.646584	12.5	506212.0	0.710776	Y





# Calibration

/ trans-1,3-Dichloropropene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

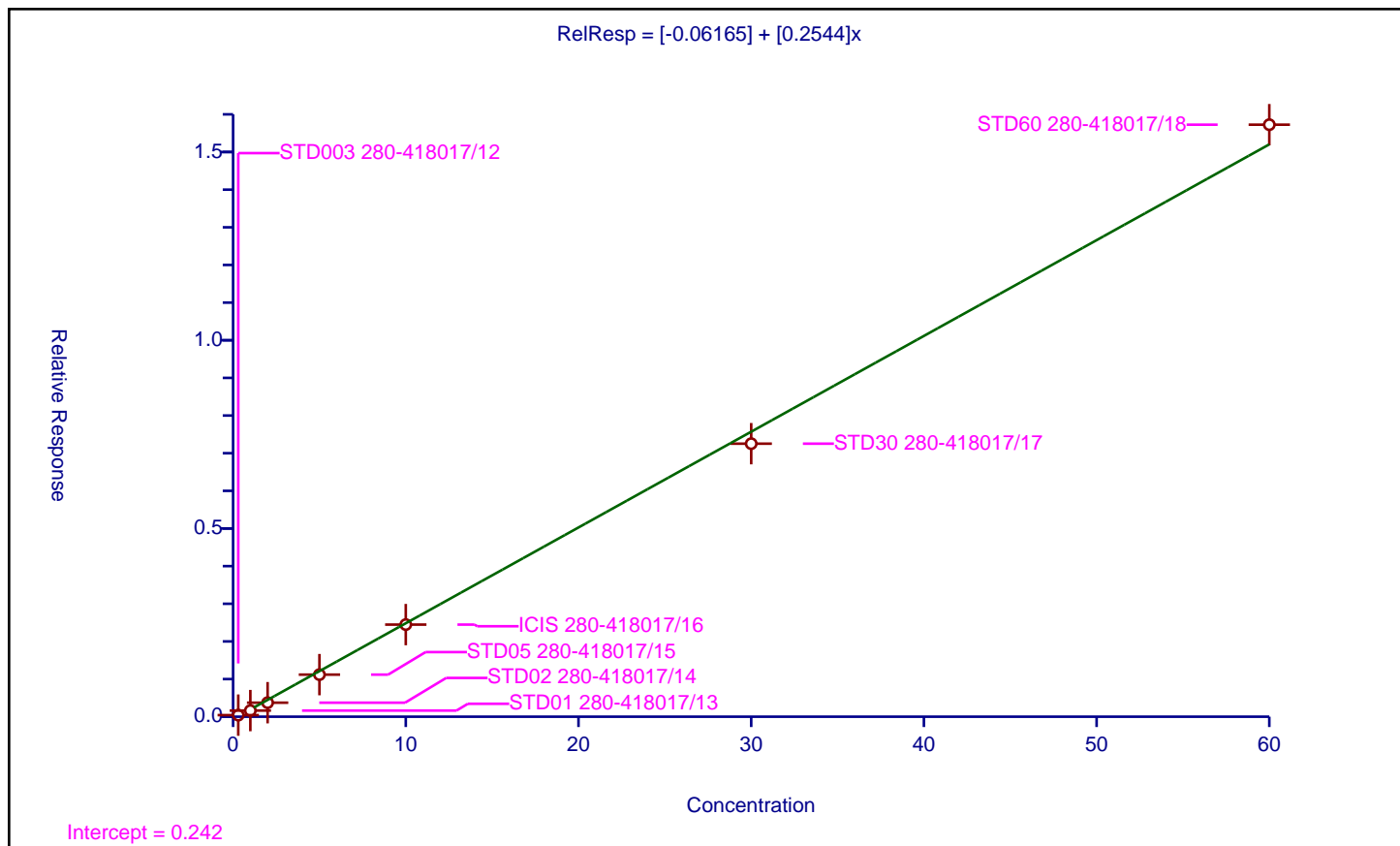
## Curve Coefficients

Intercept: -0.06165  
 Slope: 0.2544

## Error Coefficients

Standard Error: 1430000  
 Relative Standard Error: 18.6  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.042063	12.5	1767873.0	0.140211	Y
2	STD01 280-418017/13	1.0	0.162687	12.5	1820669.0	0.162687	Y
3	STD02 280-418017/14	2.0	0.372615	12.5	1910551.0	0.186308	Y
4	STD05 280-418017/15	5.0	1.117658	12.5	1942264.0	0.223532	Y
5	ICIS 280-418017/16	10.0	2.446874	12.5	2037896.0	0.244687	Y
6	STD30 280-418017/17	30.0	7.252627	12.5	2160431.0	0.241754	Y
7	STD60 280-418017/18	60.0	15.72577	12.5	2310557.0	0.262096	Y





# Calibration

/ 1,1,2-Trichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

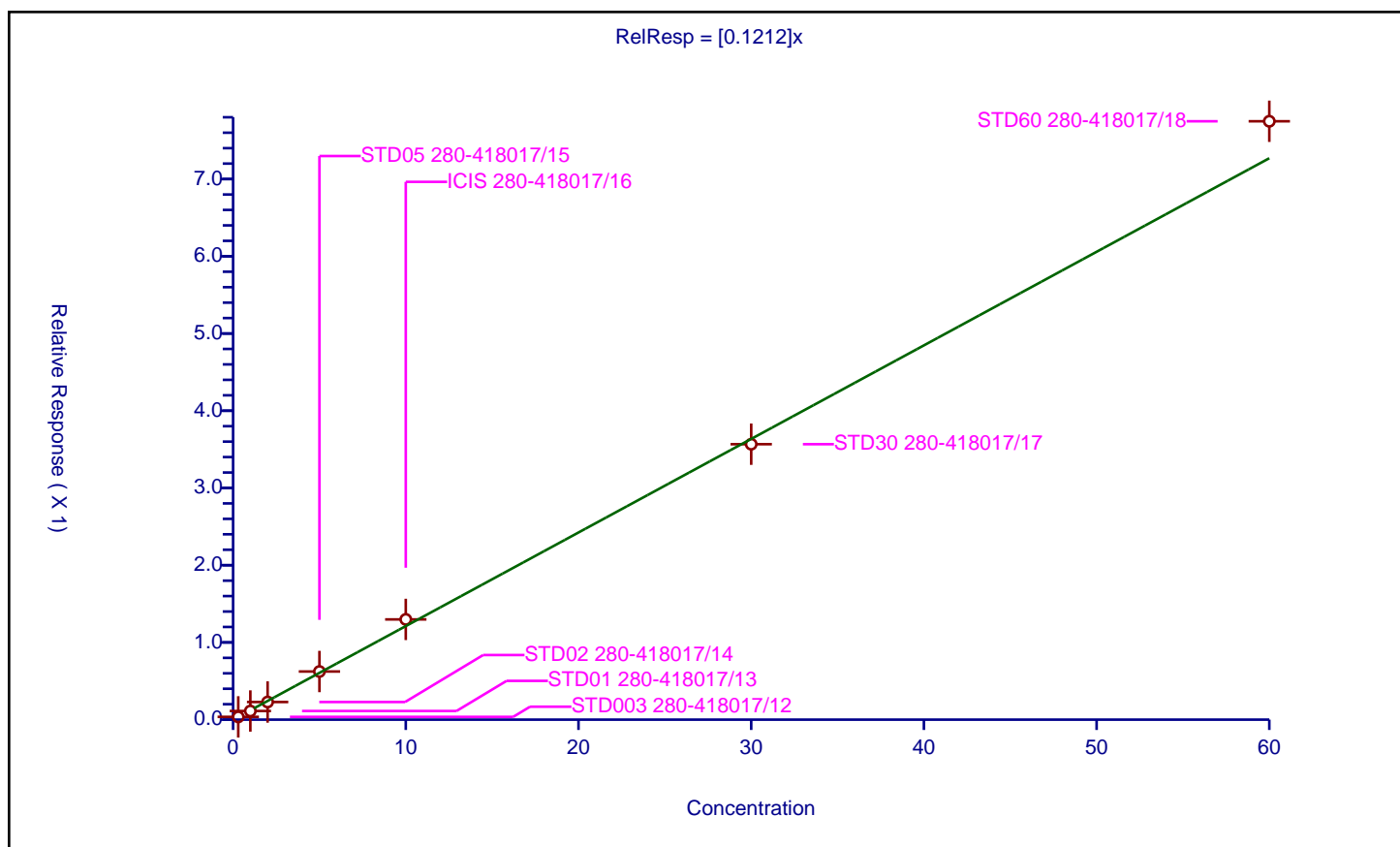
## Curve Coefficients

Intercept: 0  
 Slope: 0.1212

## Error Coefficients

Standard Error: 644000  
 Relative Standard Error: 5.7  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.035806	12.5	1767873.0	0.119352	Y
2	STD01 280-418017/13	1.0	0.112095	12.5	1820669.0	0.112095	Y
3	STD02 280-418017/14	2.0	0.22837	12.5	1910551.0	0.114185	Y
4	STD05 280-418017/15	5.0	0.623383	12.5	1942264.0	0.124677	Y
5	ICIS 280-418017/16	10.0	1.297877	12.5	2037896.0	0.129788	Y
6	STD30 280-418017/17	30.0	3.566777	12.5	2160431.0	0.118893	Y
7	STD60 280-418017/18	60.0	7.748143	12.5	2310557.0	0.129136	Y





# Calibration

/ 2-Hexanone

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

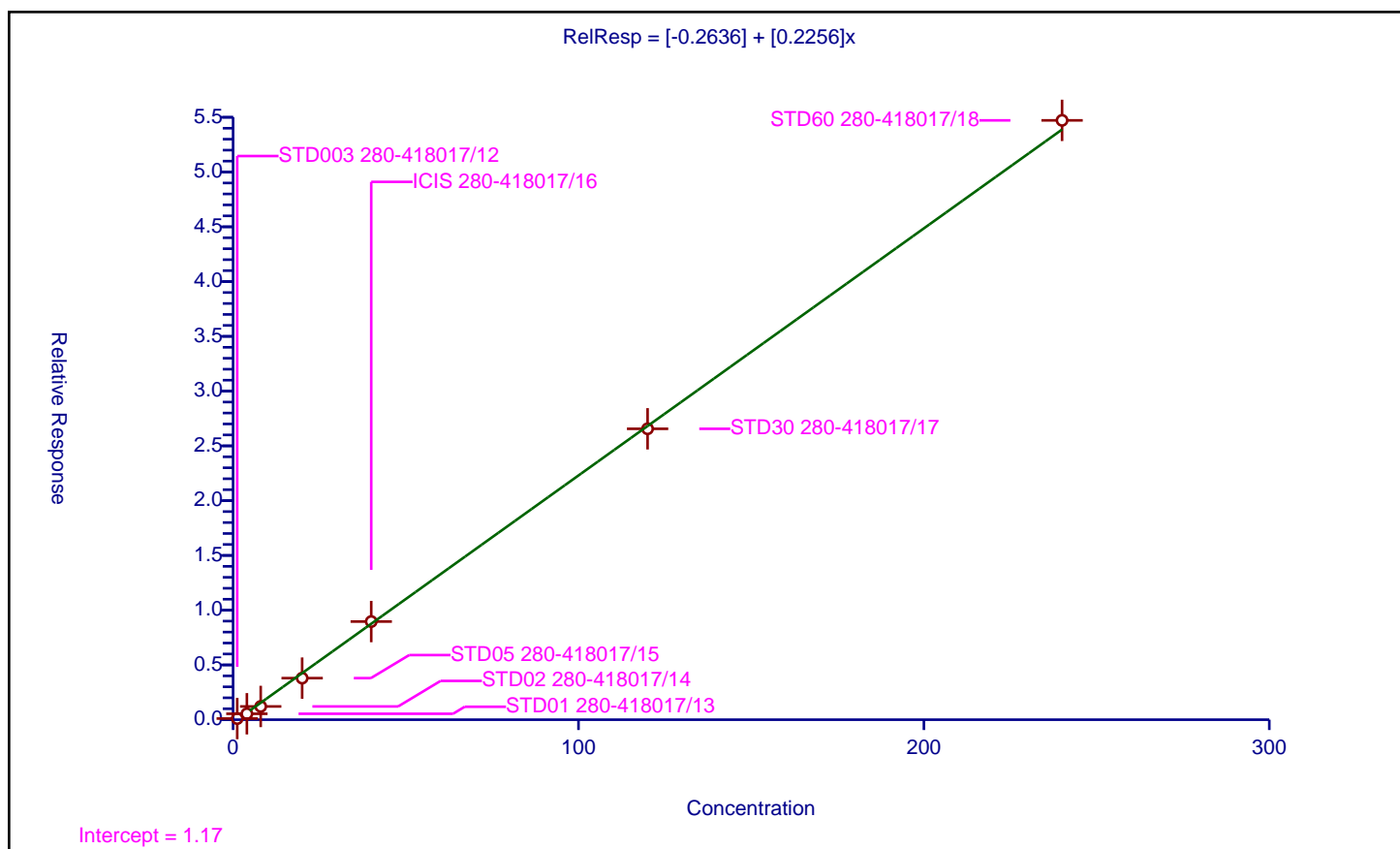
## Curve Coefficients

Intercept: -0.2636  
 Slope: 0.2256

## Error Coefficients

Standard Error: 1100000  
 Relative Standard Error: 19.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	1.2	0.105457	12.5	360337.0	0.087881	Y
2	STD01 280-418017/13	4.0	0.542021	12.5	376623.0	0.135505	Y
3	STD02 280-418017/14	8.0	1.209894	12.5	404550.0	0.151237	Y
4	STD05 280-418017/15	20.0	3.794513	12.5	413449.0	0.189726	Y
5	ICIS 280-418017/16	40.0	8.960874	12.5	435895.0	0.224022	Y
6	STD30 280-418017/17	120.0	26.558705	12.5	467680.0	0.221323	Y
7	STD60 280-418017/18	240.0	54.718873	12.5	506212.0	0.227995	Y





# Calibration

/ 1,3-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

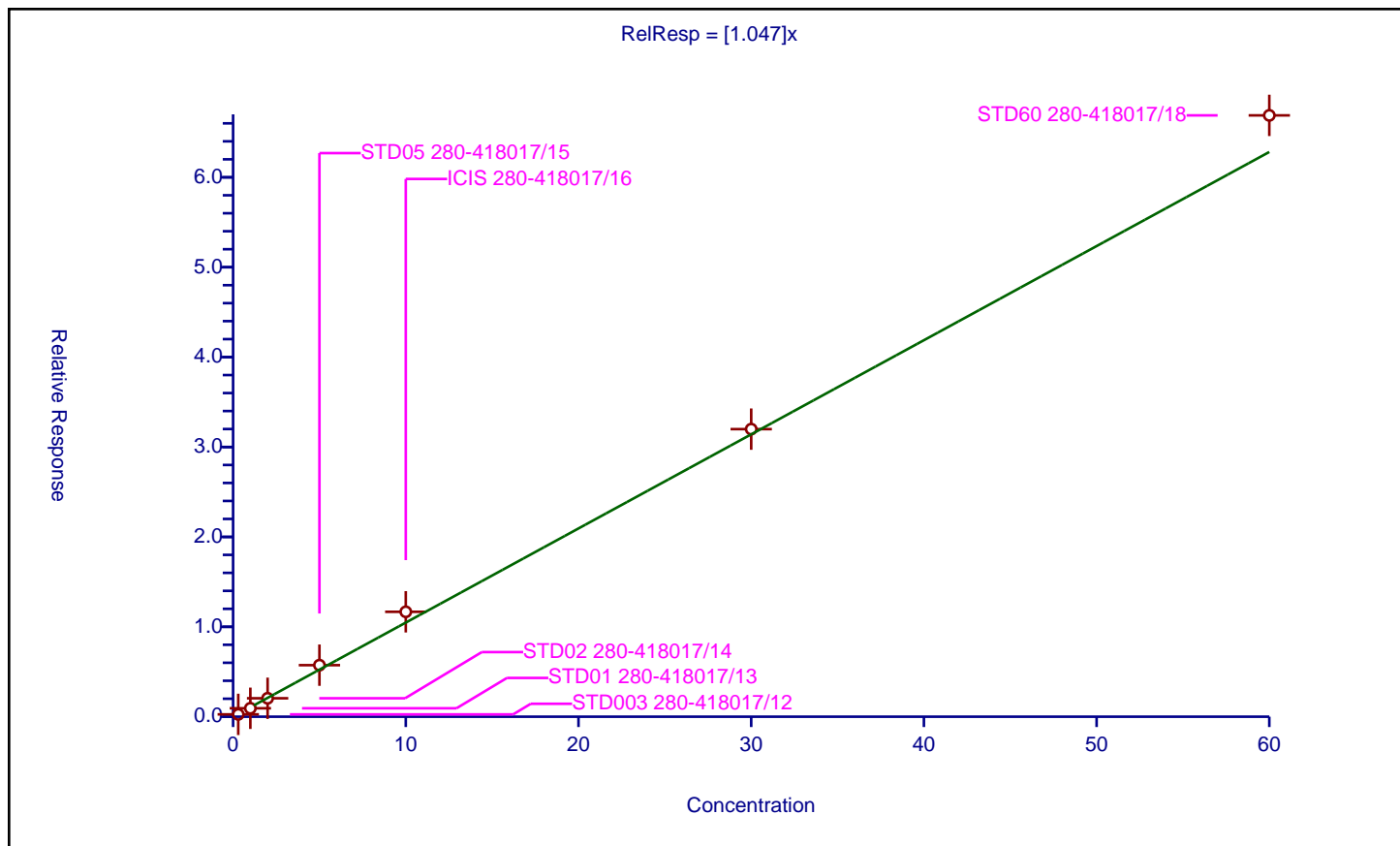
## Curve Coefficients

Intercept: 0  
 Slope: 1.047

## Error Coefficients

Standard Error: 1220000  
 Relative Standard Error: 10.5  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.261283	12.5	360337.0	0.870944	Y
2	STD01 280-418017/13	1.0	0.937775	12.5	376623.0	0.937775	Y
3	STD02 280-418017/14	2.0	2.050735	12.5	404550.0	1.025368	Y
4	STD05 280-418017/15	5.0	5.733809	12.5	413449.0	1.146762	Y
5	ICIS 280-418017/16	10.0	11.668005	12.5	435895.0	1.1668	Y
6	STD30 280-418017/17	30.0	31.988994	12.5	467680.0	1.0663	Y
7	STD60 280-418017/18	60.0	66.886724	12.5	506212.0	1.114779	Y





# Calibration

/ Tetrachloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

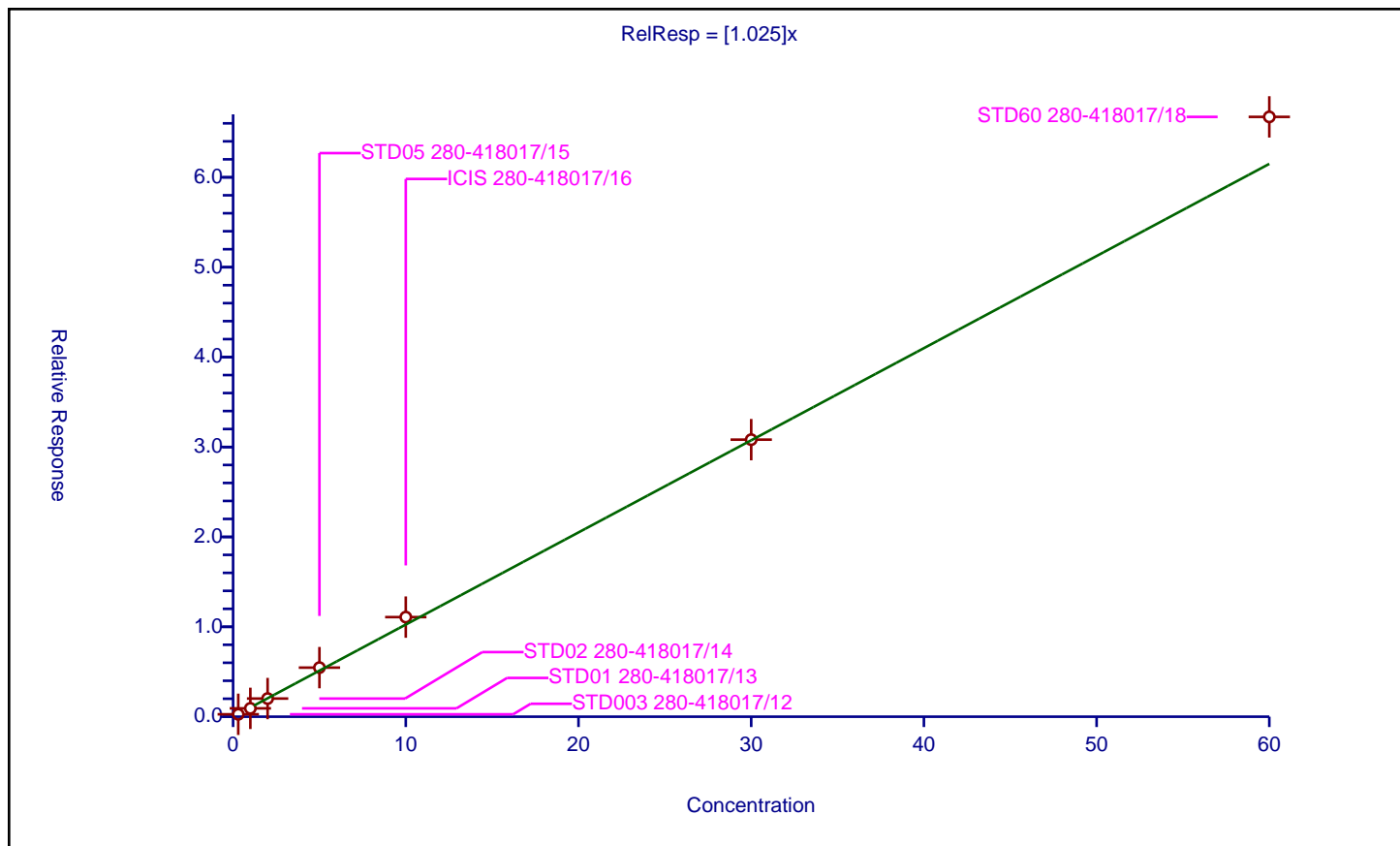
## Curve Coefficients

Intercept: 0  
 Slope: 1.025

## Error Coefficients

Standard Error: 1210000  
 Relative Standard Error: 8.4  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.268776	12.5	360337.0	0.895921	Y
2	STD01 280-418017/13	1.0	0.929776	12.5	376623.0	0.929776	Y
3	STD02 280-418017/14	2.0	2.018786	12.5	404550.0	1.009393	Y
4	STD05 280-418017/15	5.0	5.460407	12.5	413449.0	1.092081	Y
5	ICIS 280-418017/16	10.0	11.079819	12.5	435895.0	1.107982	Y
6	STD30 280-418017/17	30.0	30.818161	12.5	467680.0	1.027272	Y
7	STD60 280-418017/18	60.0	66.719304	12.5	506212.0	1.111988	Y





# Calibration

/ Chlorodibromomethane

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

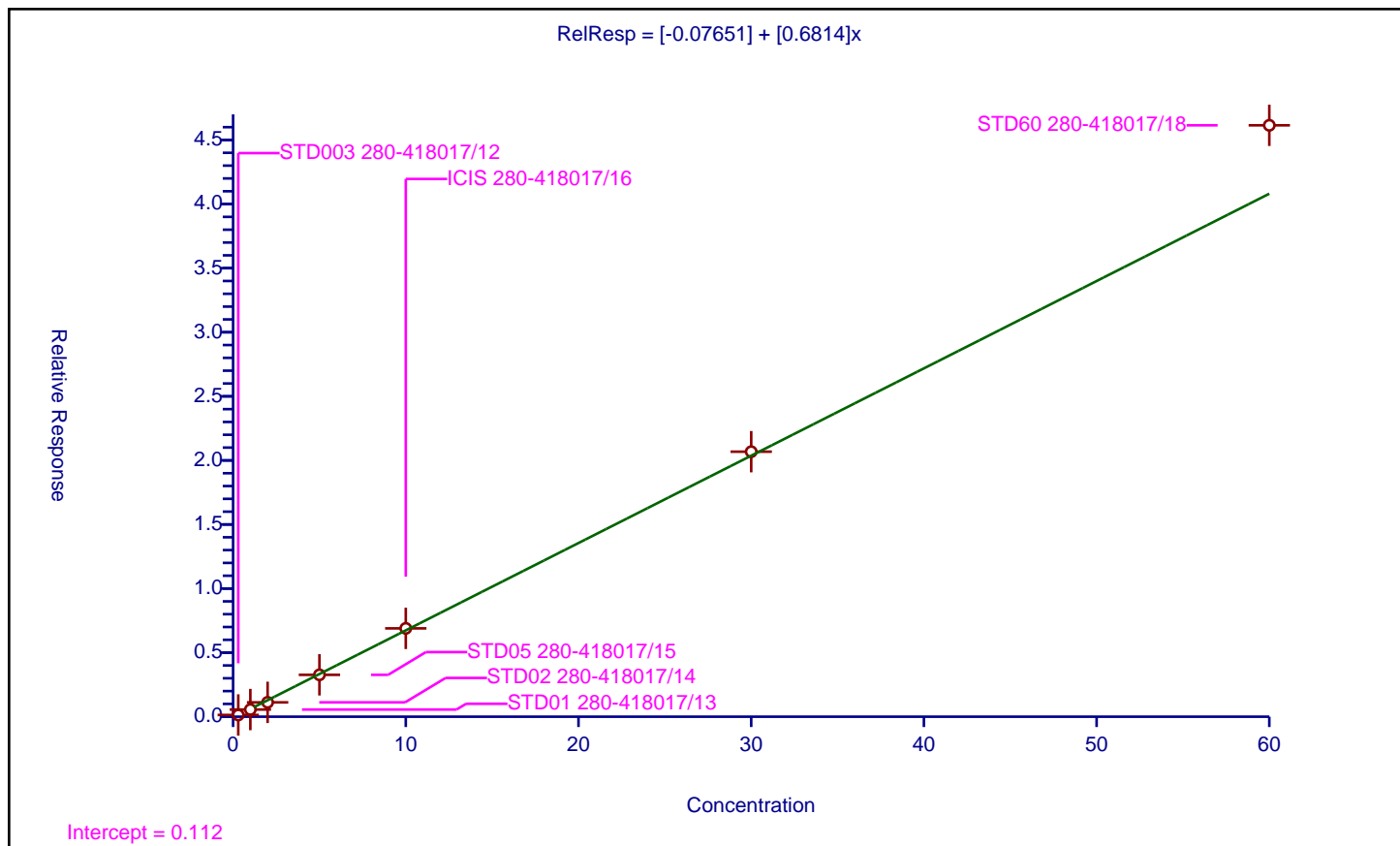
## Curve Coefficients

Intercept: -0.07651  
 Slope: 0.6814

## Error Coefficients

Standard Error: 912000  
 Relative Standard Error: 8.8  
 Correlation Coefficient: 0.993  
 Coefficient of Determination (Adjusted): 0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.135672	12.5	360337.0	0.452239	Y
2	STD01 280-418017/13	1.0	0.559147	12.5	376623.0	0.559147	Y
3	STD02 280-418017/14	2.0	1.120844	12.5	404550.0	0.560422	Y
4	STD05 280-418017/15	5.0	3.268541	12.5	413449.0	0.653708	Y
5	ICIS 280-418017/16	10.0	6.893891	12.5	435895.0	0.689389	Y
6	STD30 280-418017/17	30.0	20.679097	12.5	467680.0	0.689303	Y
7	STD60 280-418017/18	60.0	46.146328	12.5	506212.0	0.769105	Y





# Calibration

/ Ethylene Dibromide

Curve Type: Linear  
Weighting: Conc\_Sq  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

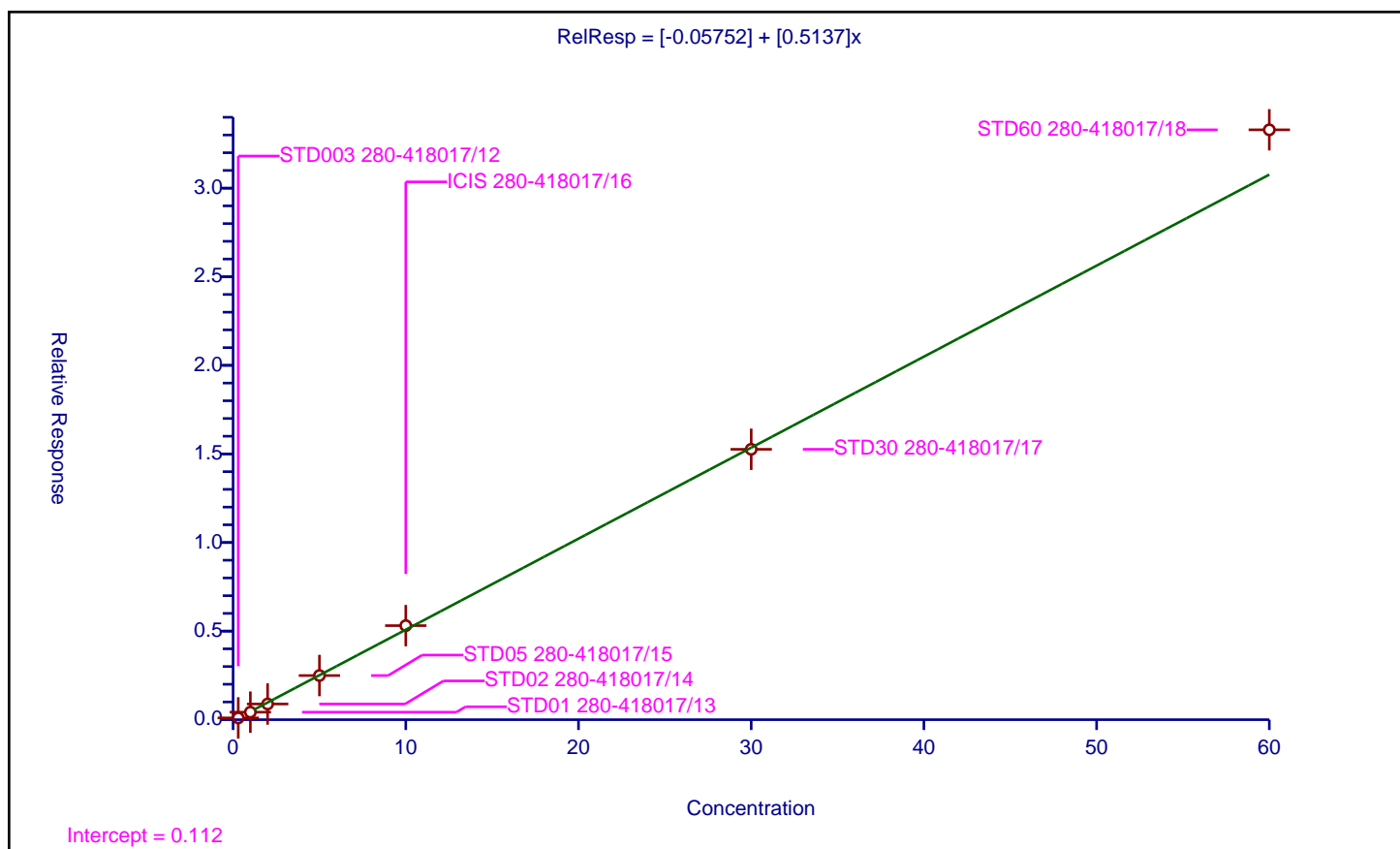
## Curve Coefficients

Intercept: -0.05752  
Slope: 0.5137

## Error Coefficients

Standard Error: 661000  
Relative Standard Error: 6.3  
Correlation Coefficient: 0.995  
Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.101121	12.5	360337.0	0.337069	Y
2	STD01 280-418017/13	1.0	0.424529	12.5	376623.0	0.424529	Y
3	STD02 280-418017/14	2.0	0.886386	12.5	404550.0	0.443193	Y
4	STD05 280-418017/15	5.0	2.491722	12.5	413449.0	0.498344	Y
5	ICIS 280-418017/16	10.0	5.309335	12.5	435895.0	0.530933	Y
6	STD30 280-418017/17	30.0	15.260809	12.5	467680.0	0.508694	Y
7	STD60 280-418017/18	60.0	33.292746	12.5	506212.0	0.554879	Y





## Calibration

/ 1-Chlorohexane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

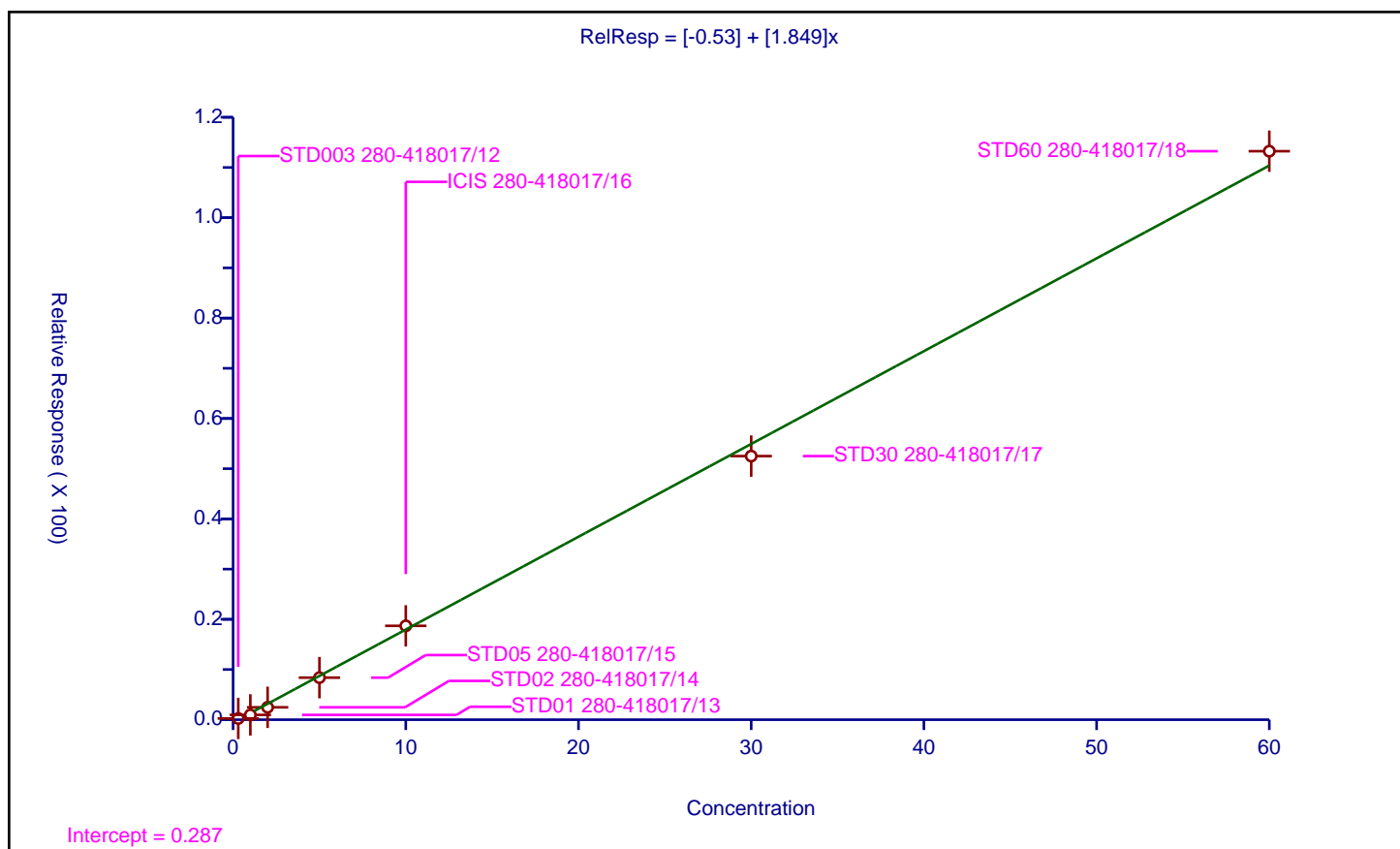
### Curve Coefficients

Intercept: -0.53  
 Slope: 1.849

### Error Coefficients

Standard Error: 2250000  
 Relative Standard Error: 22.0  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.246922	12.5	360337.0	0.823072	Y
2	STD01 280-418017/13	1.0	0.953639	12.5	376623.0	0.953639	Y
3	STD02 280-418017/14	2.0	2.466939	12.5	404550.0	1.233469	Y
4	STD05 280-418017/15	5.0	8.377605	12.5	413449.0	1.675521	Y
5	ICIS 280-418017/16	10.0	18.694726	12.5	435895.0	1.869473	Y
6	STD30 280-418017/17	30.0	52.507457	12.5	467680.0	1.750249	Y
7	STD60 280-418017/18	60.0	113.242352	12.5	506212.0	1.887373	Y





# Calibration

/ Chlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

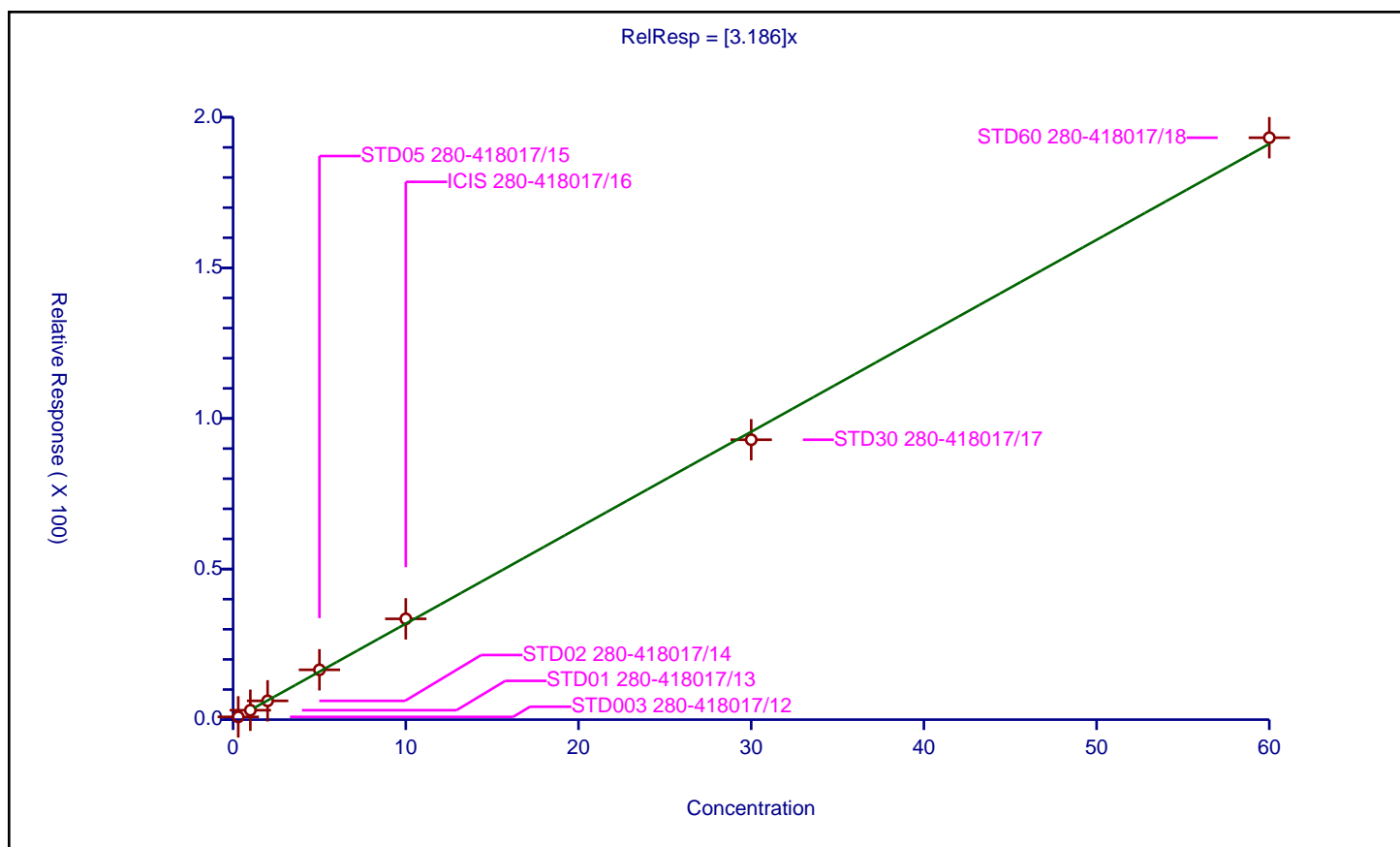
## Curve Coefficients

Intercept: 0  
 Slope: 3.186

## Error Coefficients

Standard Error: 3540000  
 Relative Standard Error: 3.4  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.923441	12.5	360337.0	3.078137	Y
2	STD01 280-418017/13	1.0	3.131314	12.5	376623.0	3.131314	Y
3	STD02 280-418017/14	2.0	6.238877	12.5	404550.0	3.119438	Y
4	STD05 280-418017/15	5.0	16.546176	12.5	413449.0	3.309235	Y
5	ICIS 280-418017/16	10.0	33.465628	12.5	435895.0	3.346563	Y
6	STD30 280-418017/17	30.0	92.938067	12.5	467680.0	3.097936	Y
7	STD60 280-418017/18	60.0	193.220528	12.5	506212.0	3.220342	Y





## Calibration

/ 1,1,1,2-Tetrachloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

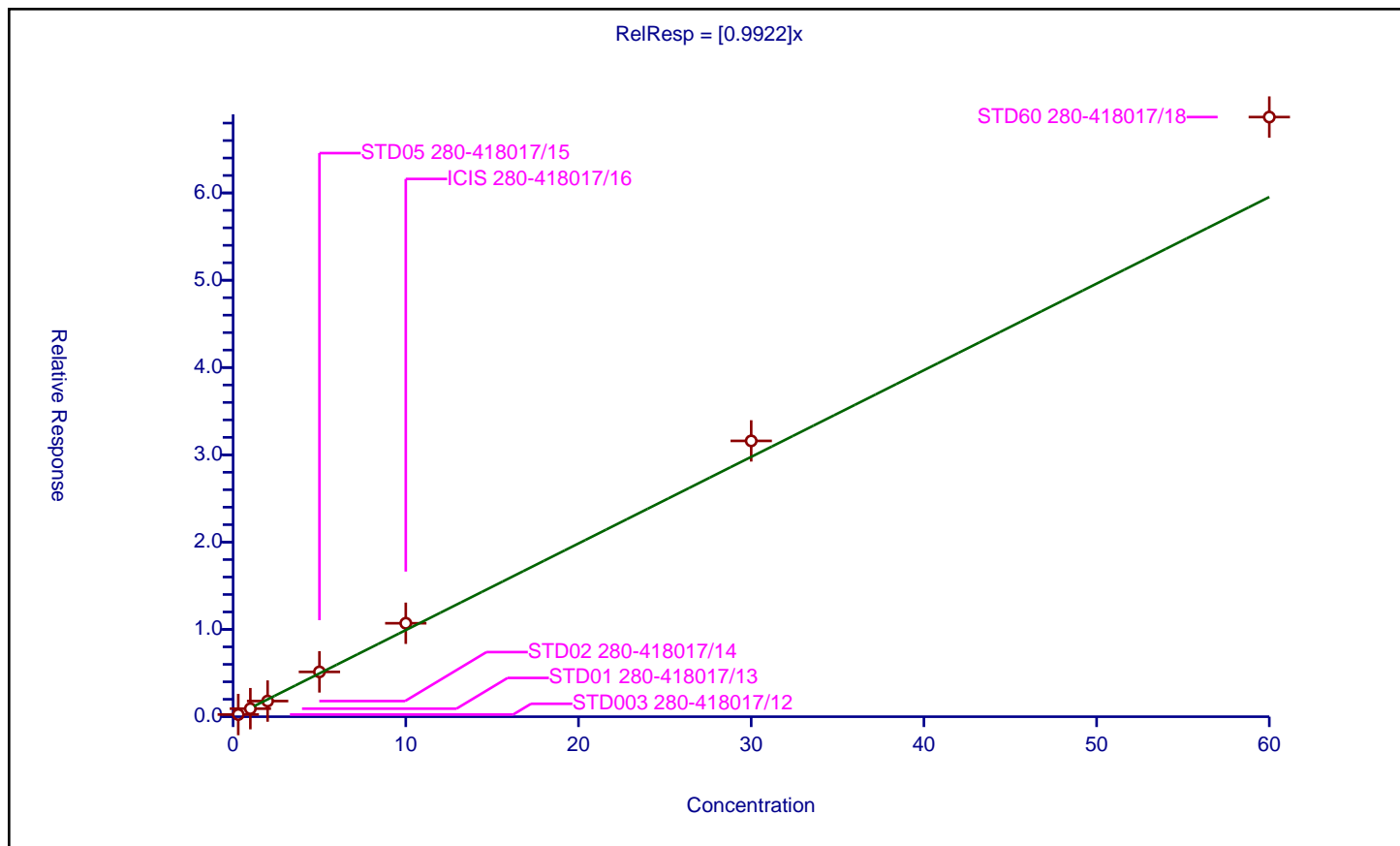
### Curve Coefficients

Intercept: 0  
 Slope: 0.9922

### Error Coefficients

Standard Error: 1250000  
 Relative Standard Error: 11.2  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.249558	12.5	360337.0	0.83186	Y
2	STD01 280-418017/13	1.0	0.922474	12.5	376623.0	0.922474	Y
3	STD02 280-418017/14	2.0	1.79125	12.5	404550.0	0.895625	Y
4	STD05 280-418017/15	5.0	5.134491	12.5	413449.0	1.026898	Y
5	ICIS 280-418017/16	10.0	10.707022	12.5	435895.0	1.070702	Y
6	STD30 280-418017/17	30.0	31.594734	12.5	467680.0	1.053158	Y
7	STD60 280-418017/18	60.0	68.689502	12.5	506212.0	1.144825	Y





# Calibration

/ Ethylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

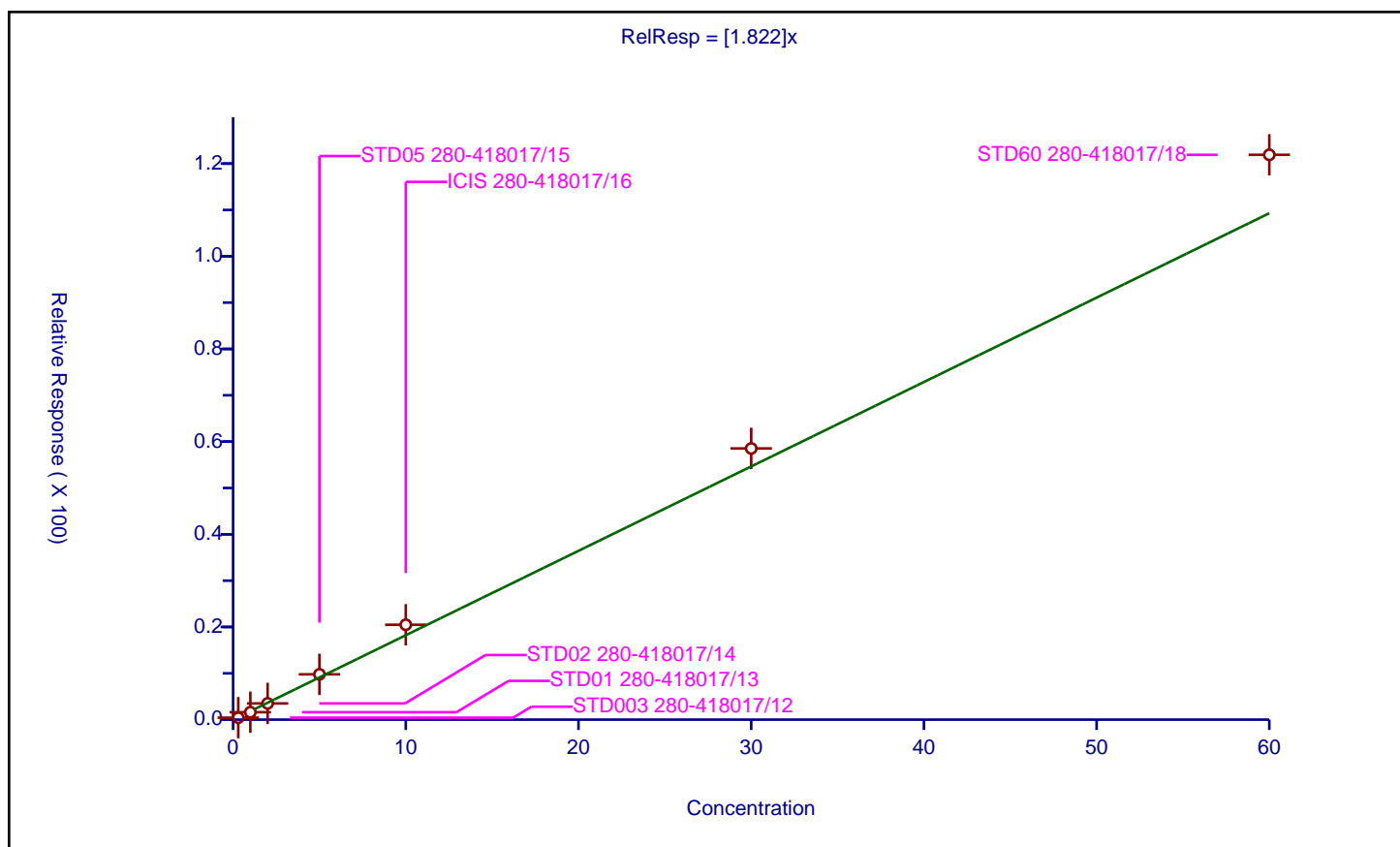
## Curve Coefficients

Intercept: 0  
 Slope: 1.822

## Error Coefficients

Standard Error: 2230000  
 Relative Standard Error: 13.3  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.423839	12.5	360337.0	1.412798	Y
2	STD01 280-418017/13	1.0	1.601237	12.5	376623.0	1.601237	Y
3	STD02 280-418017/14	2.0	3.501143	12.5	404550.0	1.750572	Y
4	STD05 280-418017/15	5.0	9.779048	12.5	413449.0	1.95581	Y
5	ICIS 280-418017/16	10.0	20.476348	12.5	435895.0	2.047635	Y
6	STD30 280-418017/17	30.0	58.527572	12.5	467680.0	1.950919	Y
7	STD60 280-418017/18	60.0	121.897446	12.5	506212.0	2.031624	Y





# Calibration

/ m-Xylene & p-Xylene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

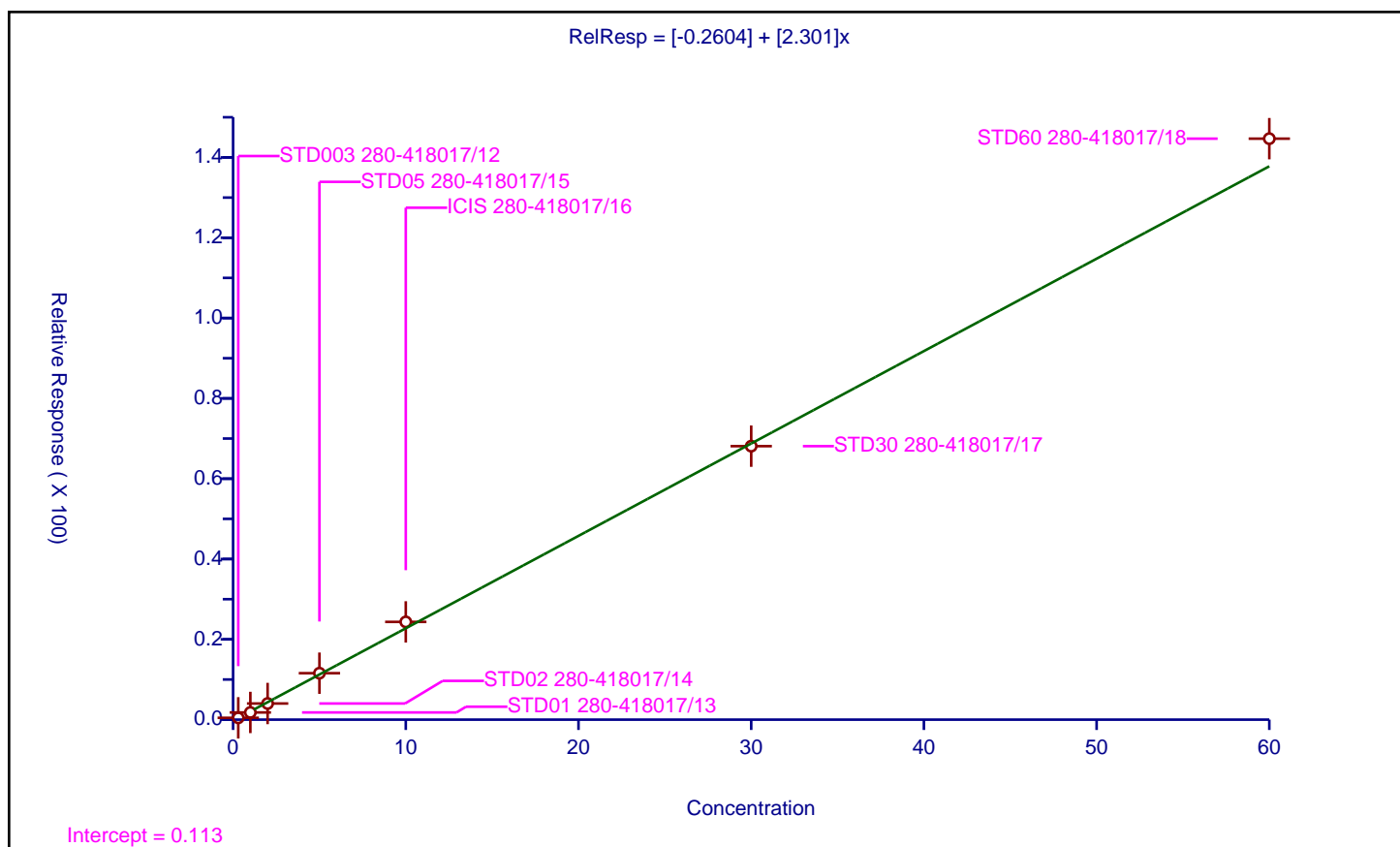
## Curve Coefficients

Intercept: -0.2604  
 Slope: 2.301

## Error Coefficients

Standard Error: 2890000  
 Relative Standard Error: 7.2  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.456413	12.5	360337.0	1.521377	Y
2	STD01 280-418017/13	1.0	1.795164	12.5	376623.0	1.795164	Y
3	STD02 280-418017/14	2.0	4.020486	12.5	404550.0	2.010243	Y
4	STD05 280-418017/15	5.0	11.569686	12.5	413449.0	2.313937	Y
5	ICIS 280-418017/16	10.0	24.342646	12.5	435895.0	2.434265	Y
6	STD30 280-418017/17	30.0	68.103431	12.5	467680.0	2.270114	Y
7	STD60 280-418017/18	60.0	144.674489	12.5	506212.0	2.411241	Y





# Calibration

/ o-Xylene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

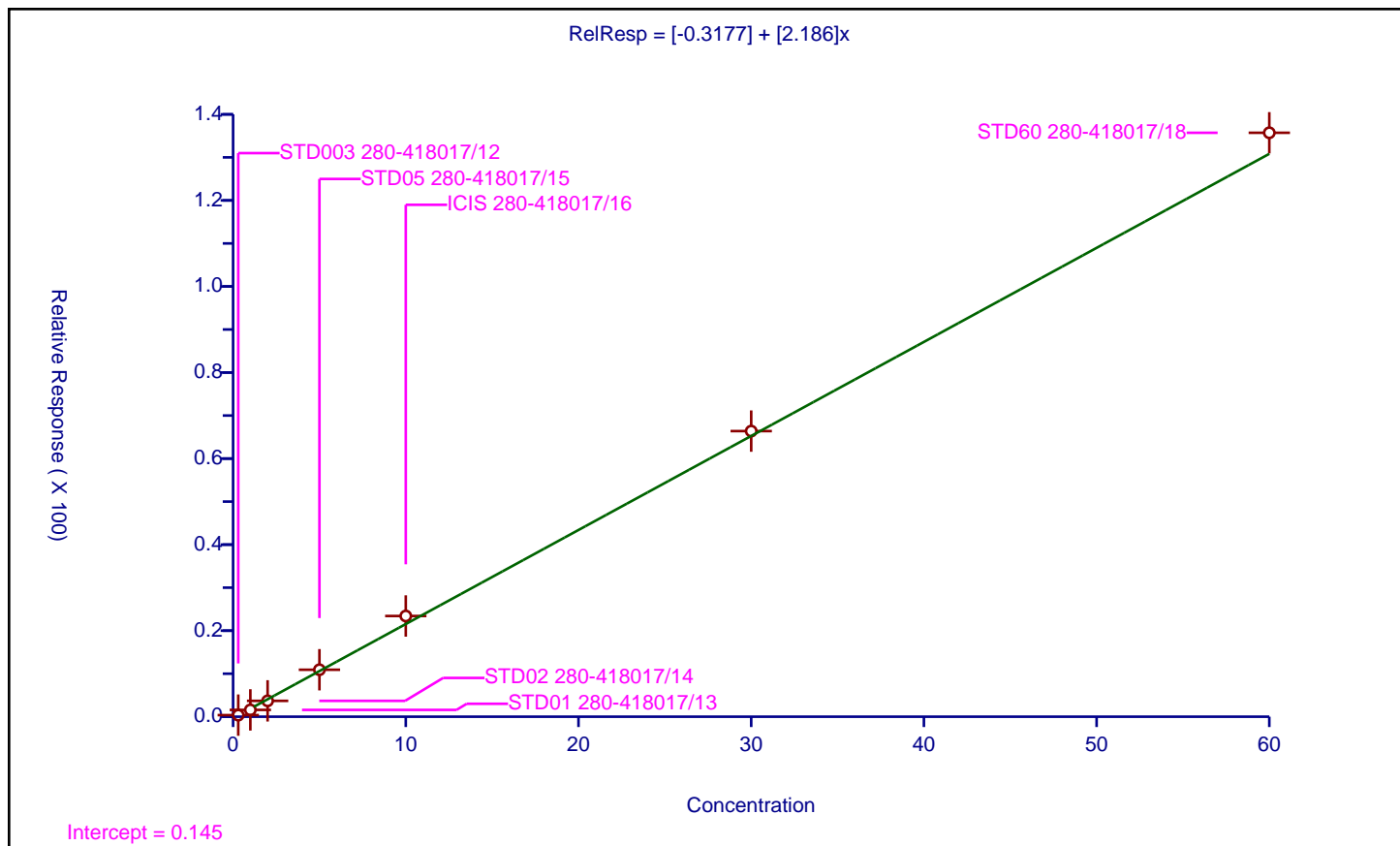
## Curve Coefficients

Intercept: -0.3177  
 Slope: 2.186

## Error Coefficients

Standard Error: 2730000  
 Relative Standard Error: 8.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.369134	12.5	360337.0	1.230445	Y
2	STD01 280-418017/13	1.0	1.580858	12.5	376623.0	1.580858	Y
3	STD02 280-418017/14	2.0	3.685577	12.5	404550.0	1.842788	Y
4	STD05 280-418017/15	5.0	10.918487	12.5	413449.0	2.183697	Y
5	ICIS 280-418017/16	10.0	23.409365	12.5	435895.0	2.340936	Y
6	STD30 280-418017/17	30.0	66.381874	12.5	467680.0	2.212729	Y
7	STD60 280-418017/18	60.0	135.720385	12.5	506212.0	2.262006	Y





## Calibration

/ Styrene

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

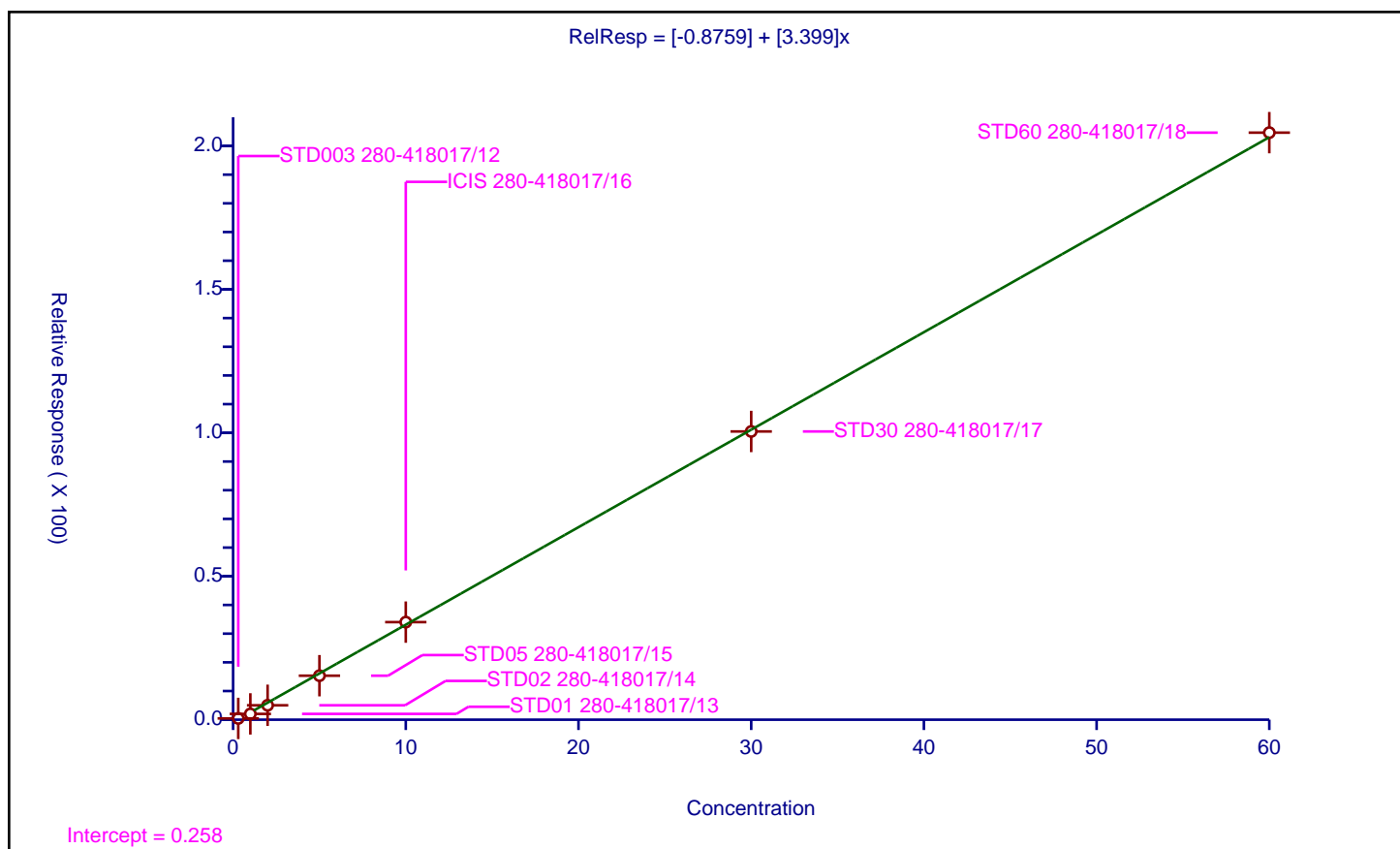
## Curve Coefficients

Intercept: -0.8759  
Slope: 3.399

## Error Coefficients

Standard Error: 4110000  
Relative Standard Error: 16.2  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.447637	12.5	360337.0	1.492122	Y
2	STD01 280-418017/13	1.0	2.019194	12.5	376623.0	2.019194	Y
3	STD02 280-418017/14	2.0	5.022185	12.5	404550.0	2.511093	Y
4	STD05 280-418017/15	5.0	15.338621	12.5	413449.0	3.067724	Y
5	ICIS 280-418017/16	10.0	34.019403	12.5	435895.0	3.40194	Y
6	STD30 280-418017/17	30.0	100.479789	12.5	467680.0	3.349326	Y
7	STD60 280-418017/18	60.0	204.644991	12.5	506212.0	3.41075	Y





# Calibration

/ Bromoform

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

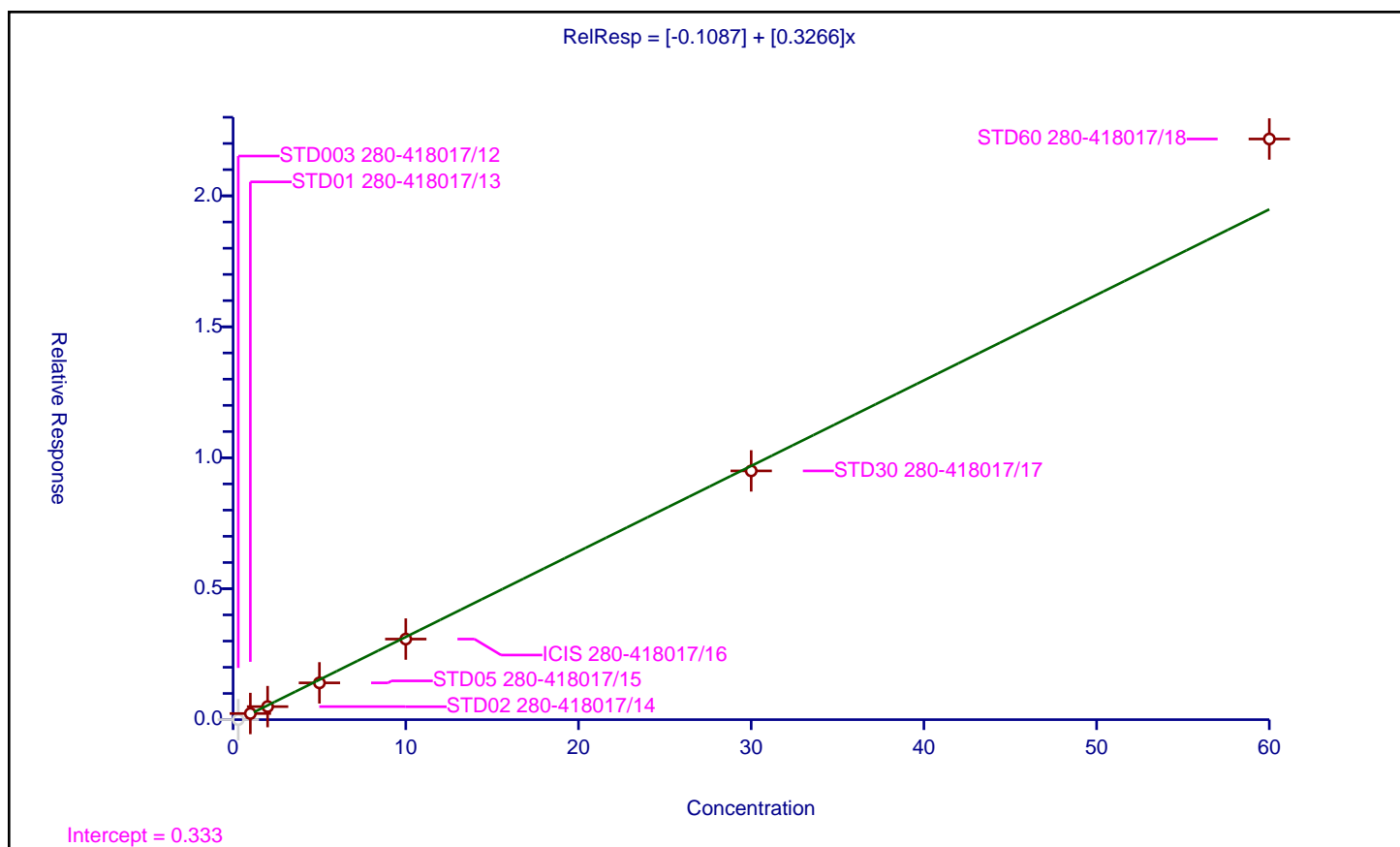
## Curve Coefficients

Intercept: -0.1087  
 Slope: 0.3266

## Error Coefficients

Standard Error: 486000  
 Relative Standard Error: 9.0  
 Correlation Coefficient: 0.990  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.0	12.5	360337.0	0.0	N
2	STD01 280-418017/13	1.0	0.234386	12.5	376623.0	0.234386	Y
3	STD02 280-418017/14	2.0	0.498301	12.5	404550.0	0.24915	Y
4	STD05 280-418017/15	5.0	1.404798	12.5	413449.0	0.28096	Y
5	ICIS 280-418017/16	10.0	3.075884	12.5	435895.0	0.307588	Y
6	STD30 280-418017/17	30.0	9.498161	12.5	467680.0	0.316605	Y
7	STD60 280-418017/18	60.0	22.170454	12.5	506212.0	0.369508	Y





# Calibration

/ Isopropylbenzene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

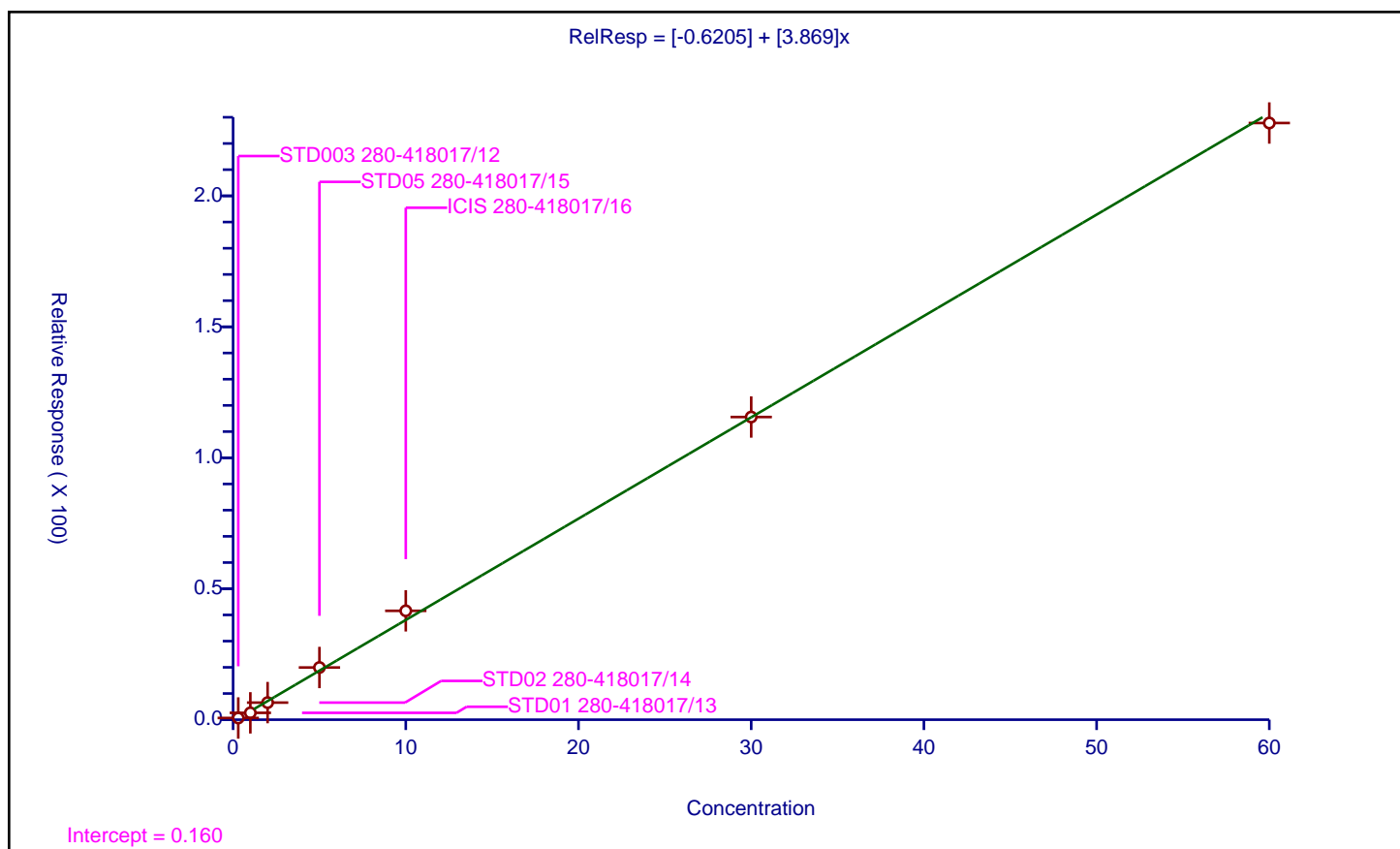
## Curve Coefficients

Intercept: -0.6205  
 Slope: 3.869

## Error Coefficients

Standard Error: 6810000  
 Relative Standard Error: 10.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.657037	12.5	514050.0	2.190124	Y
2	STD01 280-418017/13	1.0	2.624174	12.5	541899.0	2.624174	Y
3	STD02 280-418017/14	2.0	6.522758	12.5	583187.0	3.261379	Y
4	STD05 280-418017/15	5.0	19.926217	12.5	592211.0	3.985243	Y
5	ICIS 280-418017/16	10.0	41.568725	12.5	648428.0	4.156872	Y
6	STD30 280-418017/17	30.0	115.56141	12.5	686375.0	3.852047	Y
7	STD60 280-418017/18	60.0	227.811322	12.5	747891.0	3.796855	Y





## Calibration

/ Cyclohexanone

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

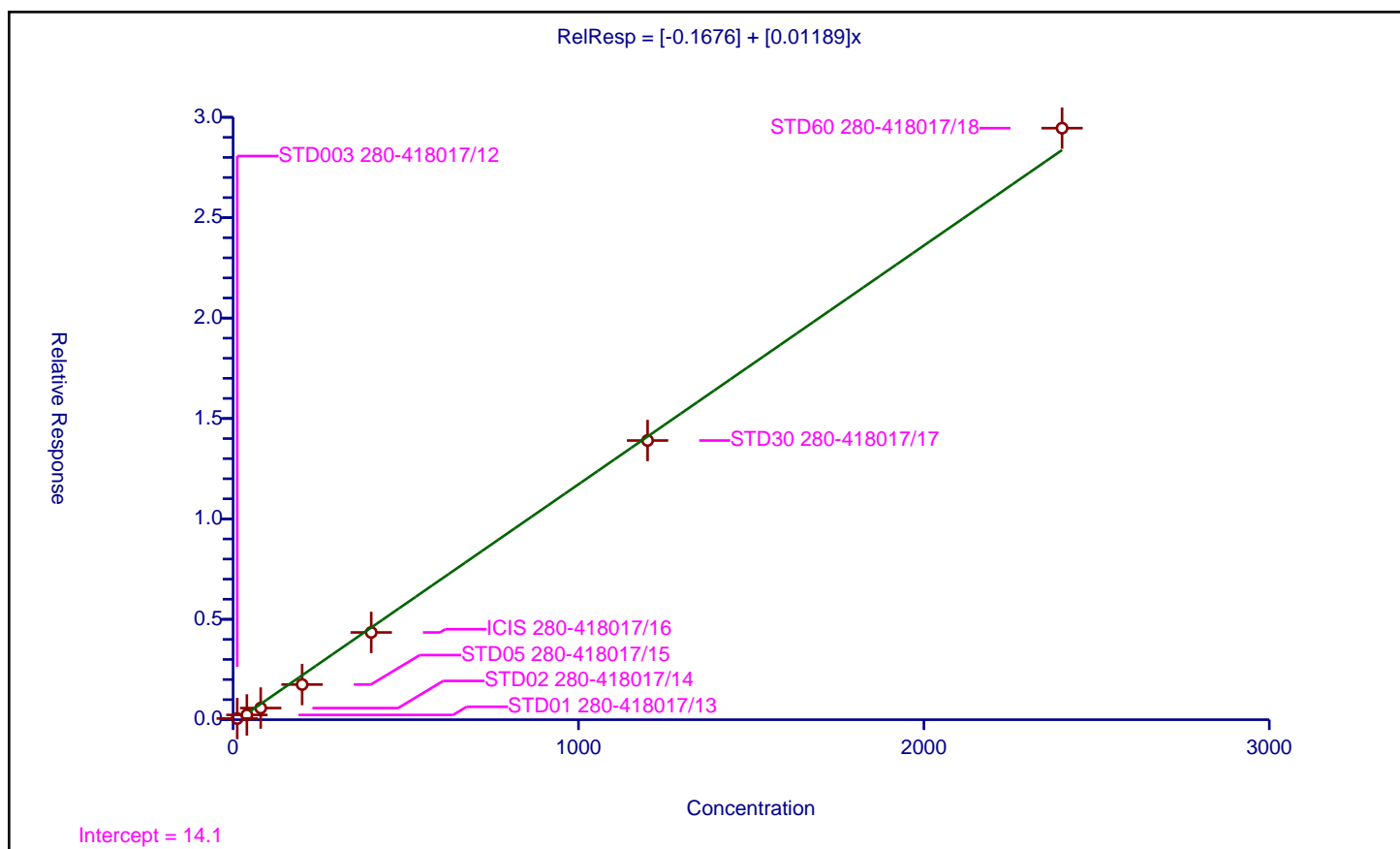
## Curve Coefficients

Intercept: -0.1676  
Slope: 0.01189

## Error Coefficients

Standard Error: 587000  
Relative Standard Error: 29.9  
Correlation Coefficient: 0.996  
Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	12.0	0.058175	12.5	360337.0	0.004848	Y
2	STD01 280-418017/13	40.0	0.237572	12.5	376623.0	0.005939	Y
3	STD02 280-418017/14	80.0	0.579842	12.5	404550.0	0.007248	Y
4	STD05 280-418017/15	200.0	1.751153	12.5	413449.0	0.008756	Y
5	ICIS 280-418017/16	400.0	4.345513	12.5	435895.0	0.010864	Y
6	STD30 280-418017/17	1200.0	13.904005	12.5	467680.0	0.011587	Y
7	STD60 280-418017/18	2400.0	29.458705	12.5	506212.0	0.012274	Y





## Calibration

/ 4-Bromofluorobenzene (Surr)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

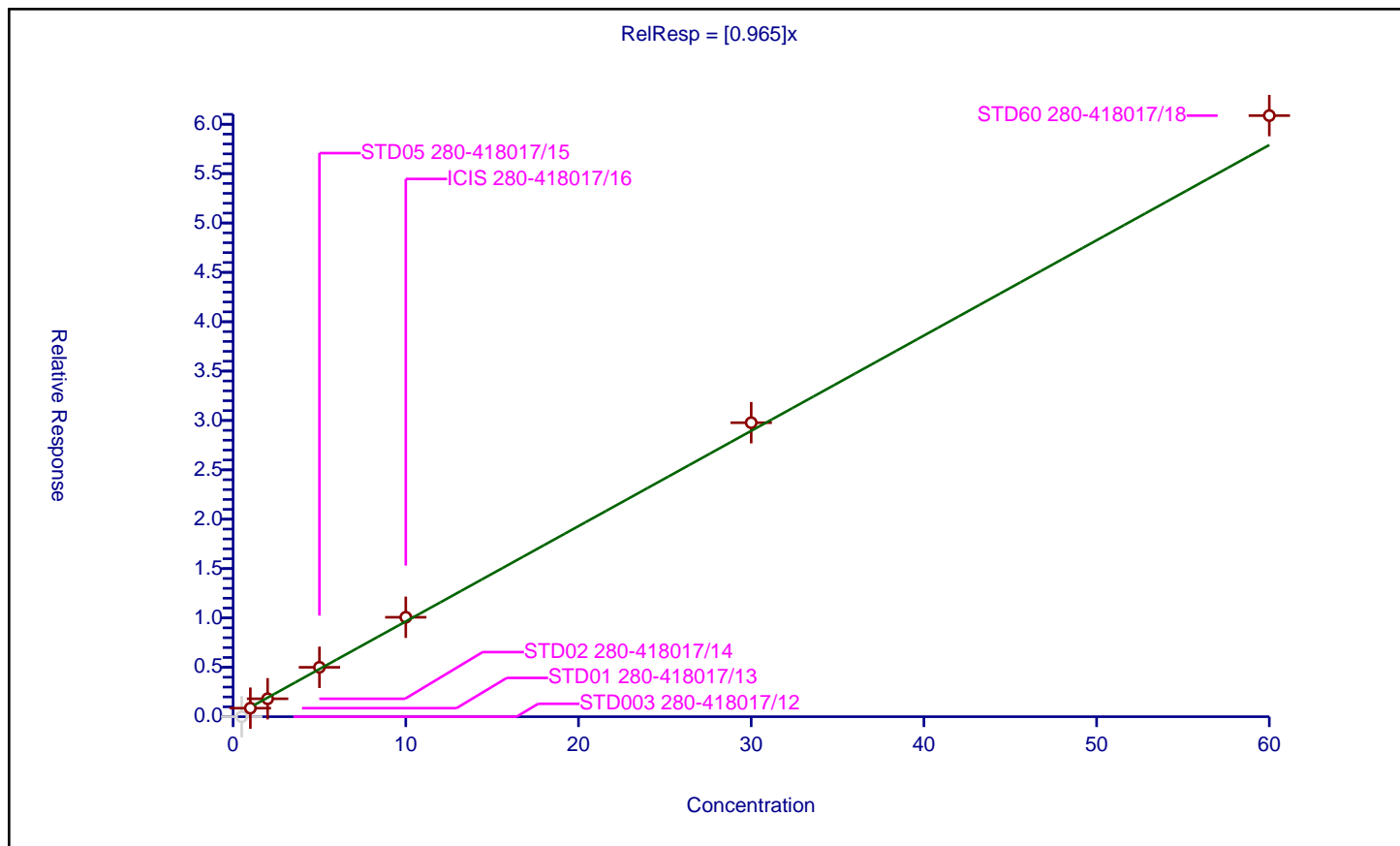
### Curve Coefficients

Intercept: 0  
 Slope: 0.965

### Error Coefficients

Standard Error: 1800000  
 Relative Standard Error: 6.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.5	0.0	12.5	514050.0	0.0	N
2	STD01 280-418017/13	1.0	0.865936	12.5	541899.0	0.865936	Y
3	STD02 280-418017/14	2.0	1.81672	12.5	583187.0	0.90836	Y
4	STD05 280-418017/15	5.0	5.006007	12.5	592211.0	1.001201	Y
5	ICIS 280-418017/16	10.0	10.071627	12.5	648428.0	1.007163	Y
6	STD30 280-418017/17	30.0	29.775851	12.5	686375.0	0.992528	Y
7	STD60 280-418017/18	60.0	60.875565	12.5	747891.0	1.014593	Y





## Calibration

/ 1,1,2,2-Tetrachloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

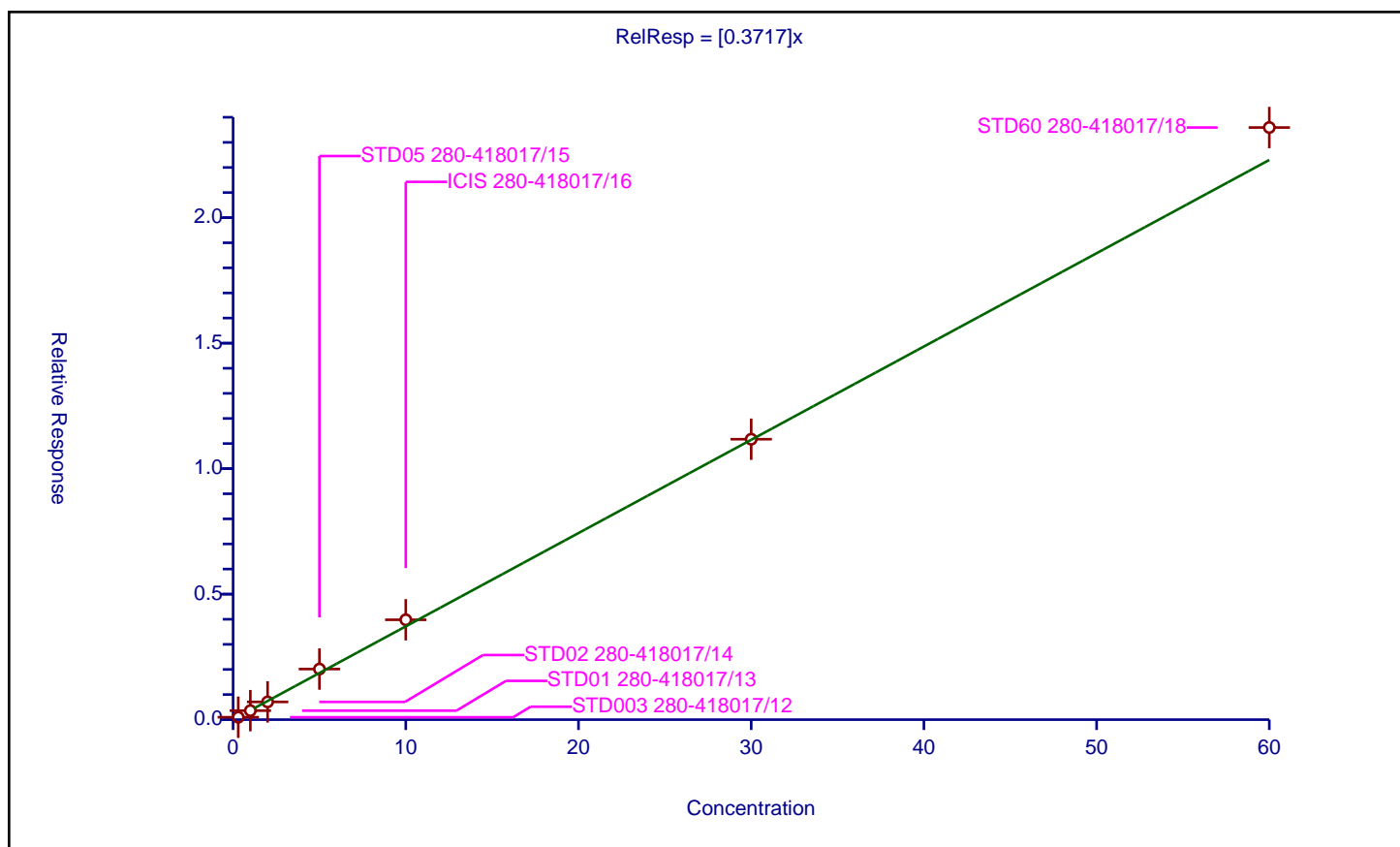
### Curve Coefficients

Intercept: 0  
 Slope: 0.3717

### Error Coefficients

Standard Error: 635000  
 Relative Standard Error: 7.8  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.096708	12.5	514050.0	0.322358	Y
2	STD01 280-418017/13	1.0	0.359108	12.5	541899.0	0.359108	Y
3	STD02 280-418017/14	2.0	0.706827	12.5	583187.0	0.353414	Y
4	STD05 280-418017/15	5.0	2.015962	12.5	592211.0	0.403192	Y
5	ICIS 280-418017/16	10.0	3.979123	12.5	648428.0	0.397912	Y
6	STD30 280-418017/17	30.0	11.173083	12.5	686375.0	0.372436	Y
7	STD60 280-418017/18	60.0	23.592158	12.5	747891.0	0.393203	Y





# Calibration

/ trans-1,4-Dichloro-2-butene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

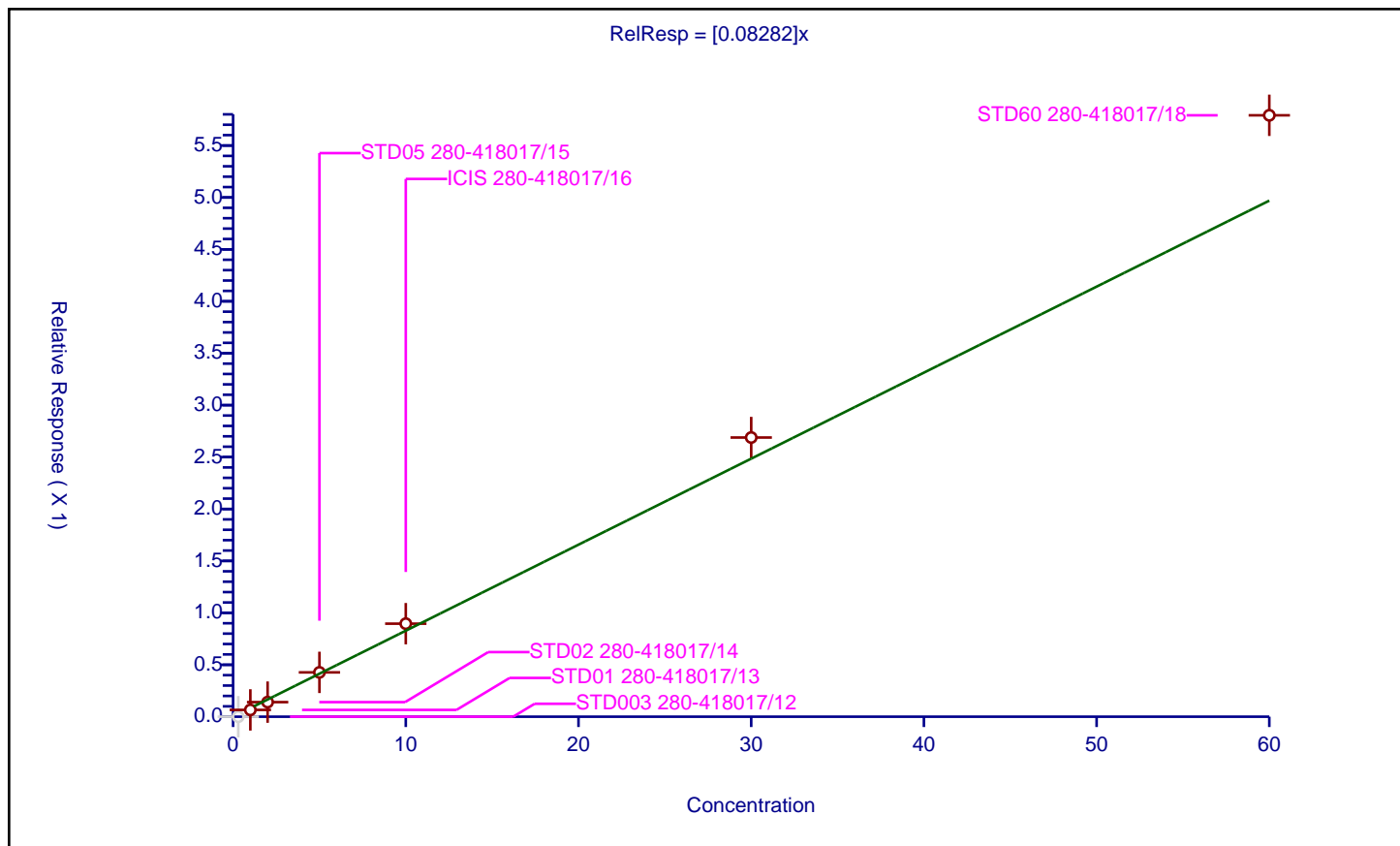
## Curve Coefficients

Intercept: 0  
 Slope: 0.08282

## Error Coefficients

Standard Error: 170000  
 Relative Standard Error: 14.7  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.974

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.0	12.5	514050.0	0.0	N
2	STD01 280-418017/13	1.0	0.065649	12.5	541899.0	0.065649	Y
3	STD02 280-418017/14	2.0	0.140414	12.5	583187.0	0.070207	Y
4	STD05 280-418017/15	5.0	0.426854	12.5	592211.0	0.085371	Y
5	ICIS 280-418017/16	10.0	0.895897	12.5	648428.0	0.08959	Y
6	STD30 280-418017/17	30.0	2.688162	12.5	686375.0	0.089605	Y
7	STD60 280-418017/18	60.0	5.791034	12.5	747891.0	0.096517	Y





## Calibration

/ 1,2,3-Trichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

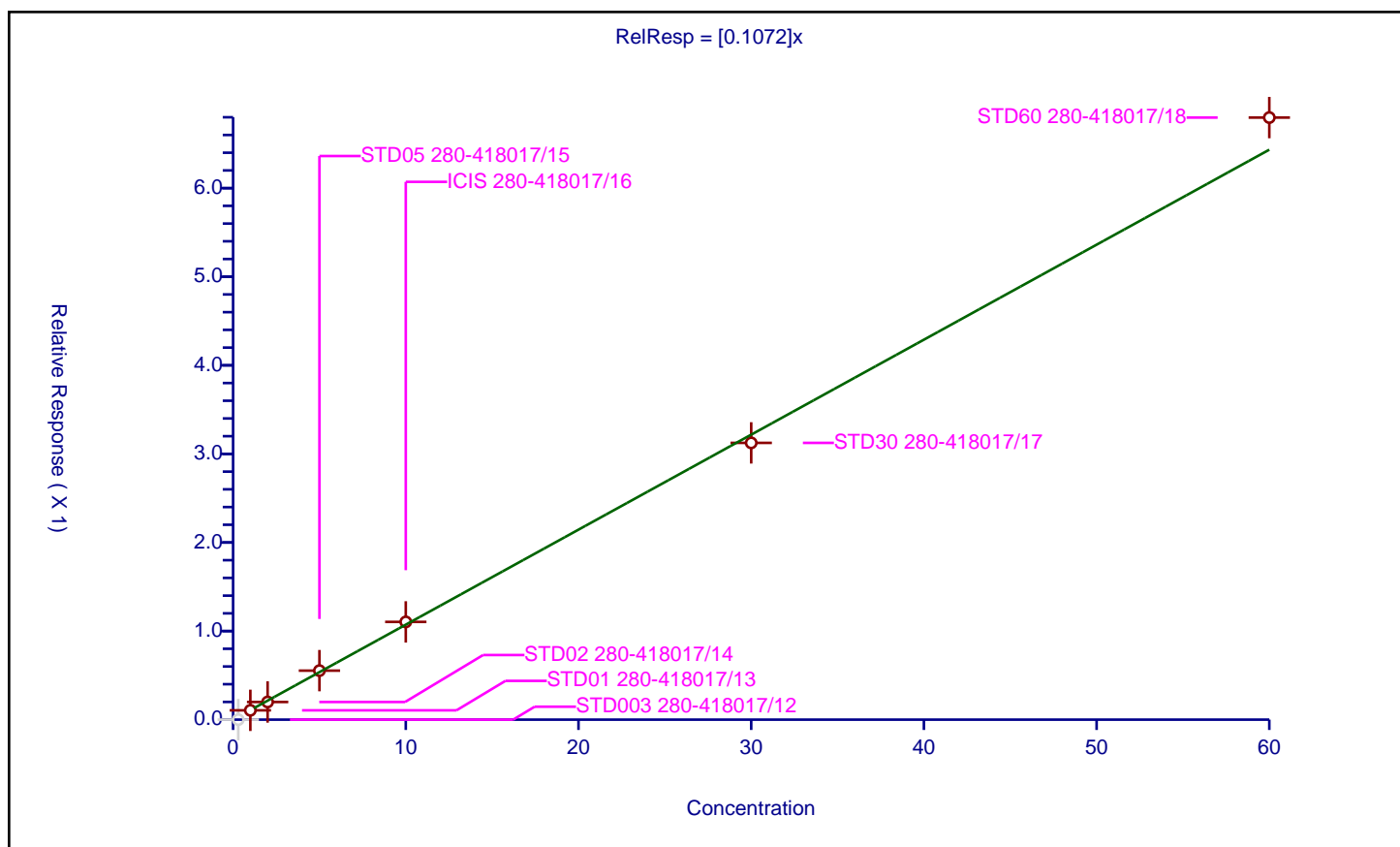
### Curve Coefficients

Intercept: 0  
 Slope: 0.1072

### Error Coefficients

Standard Error: 199000  
 Relative Standard Error: 4.7  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.0	12.5	514050.0	0.0	N
2	STD01 280-418017/13	1.0	0.105232	12.5	541899.0	0.105232	Y
3	STD02 280-418017/14	2.0	0.1994	12.5	583187.0	0.0997	Y
4	STD05 280-418017/15	5.0	0.553392	12.5	592211.0	0.110678	Y
5	ICIS 280-418017/16	10.0	1.103611	12.5	648428.0	0.110361	Y
6	STD30 280-418017/17	30.0	3.124294	12.5	686375.0	0.104143	Y
7	STD60 280-418017/18	60.0	6.796762	12.5	747891.0	0.113279	Y





## Calibration

/ Bromobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

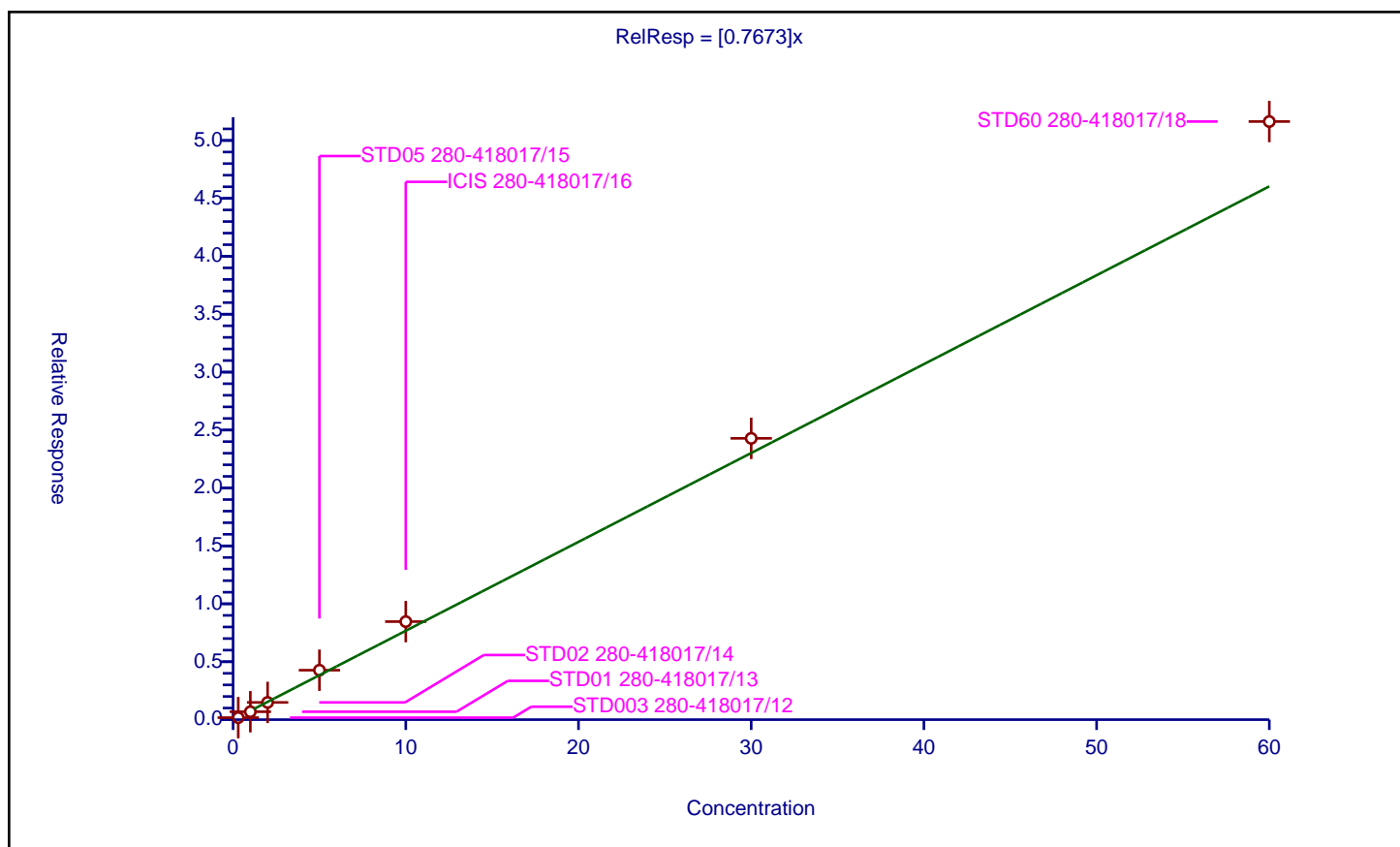
### Curve Coefficients

Intercept: 0  
 Slope: 0.7673

### Error Coefficients

Standard Error: 1390000  
 Relative Standard Error: 14.0  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.172016	12.5	514050.0	0.573388	Y
2	STD01 280-418017/13	1.0	0.683292	12.5	541899.0	0.683292	Y
3	STD02 280-418017/14	2.0	1.488009	12.5	583187.0	0.744004	Y
4	STD05 280-418017/15	5.0	4.269023	12.5	592211.0	0.853805	Y
5	ICIS 280-418017/16	10.0	8.463372	12.5	648428.0	0.846337	Y
6	STD30 280-418017/17	30.0	24.281934	12.5	686375.0	0.809398	Y
7	STD60 280-418017/18	60.0	51.632173	12.5	747891.0	0.860536	Y





# Calibration

/ N-Propylbenzene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

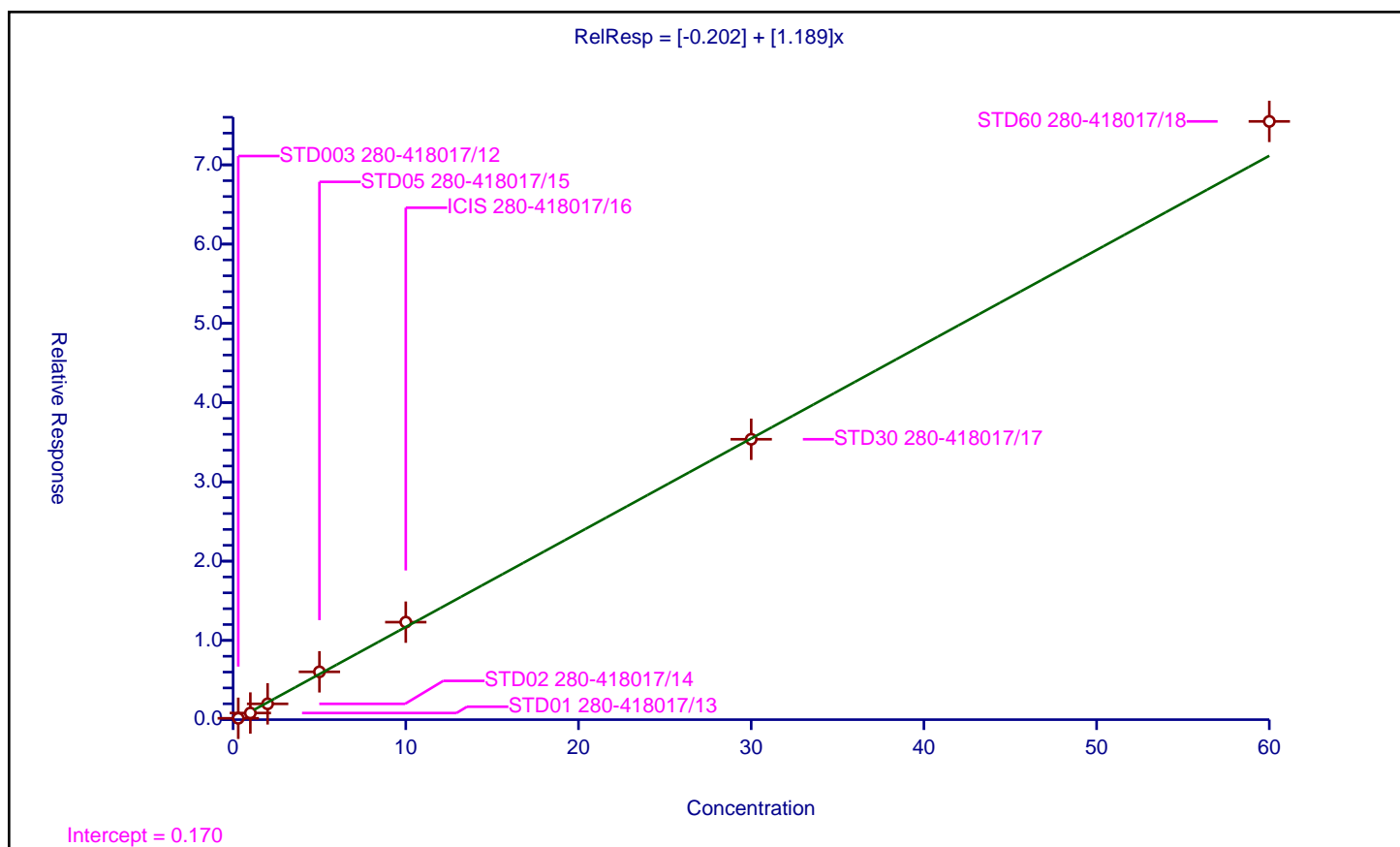
## Curve Coefficients

Intercept: -0.202  
 Slope: 1.189

## Error Coefficients

Standard Error: 2220000  
 Relative Standard Error: 8.1  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.170679	12.5	514050.0	0.56893	Y
2	STD01 280-418017/13	1.0	0.837333	12.5	541899.0	0.837333	Y
3	STD02 280-418017/14	2.0	1.993722	12.5	583187.0	0.996861	Y
4	STD05 280-418017/15	5.0	6.032795	12.5	592211.0	1.206559	Y
5	ICIS 280-418017/16	10.0	12.300768	12.5	648428.0	1.230077	Y
6	STD30 280-418017/17	30.0	35.375961	12.5	686375.0	1.179199	Y
7	STD60 280-418017/18	60.0	75.479131	12.5	747891.0	1.257986	Y





# Calibration

/ 1,3,5-Trimethylbenzene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

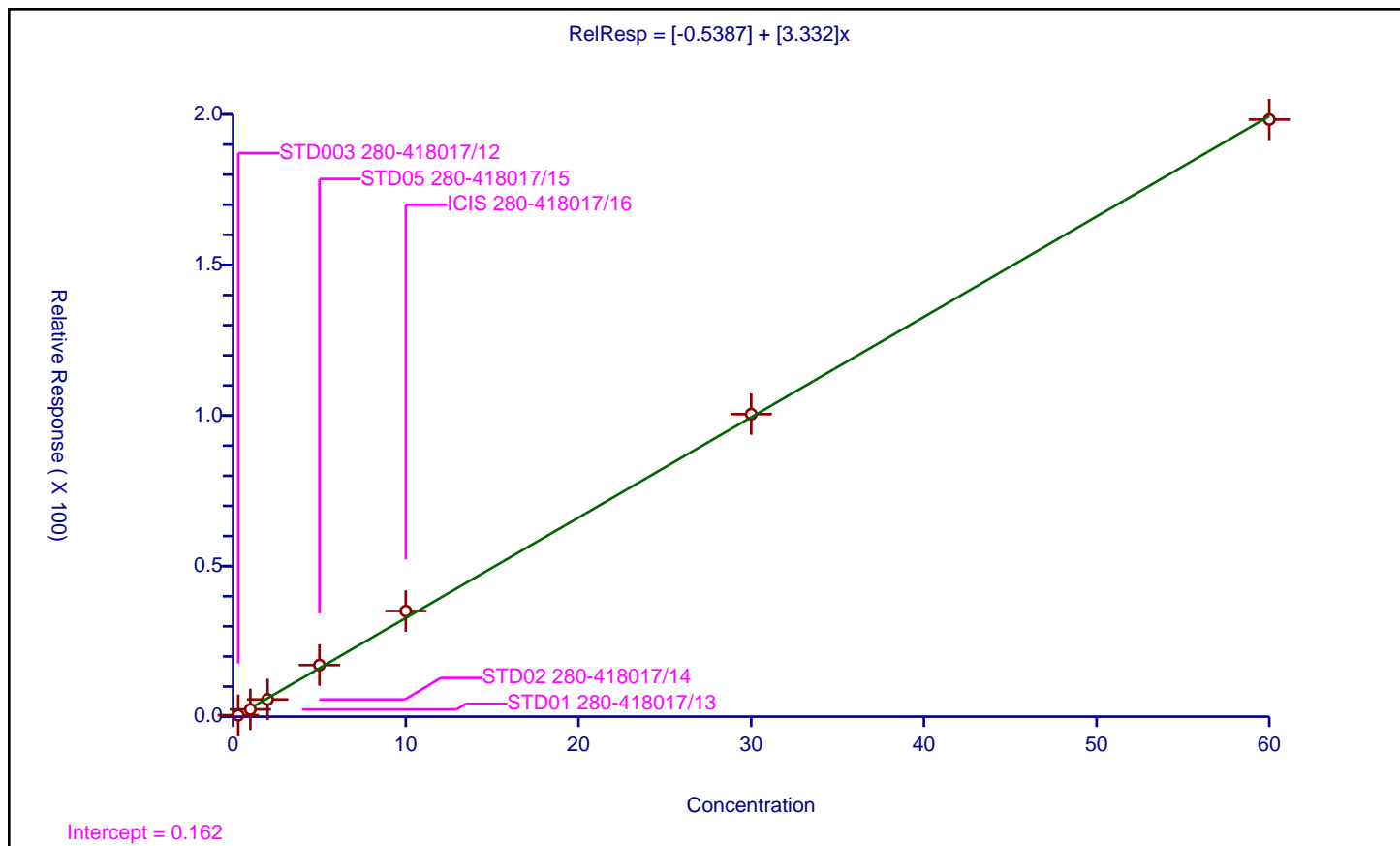
## Curve Coefficients

Intercept: -0.5387  
 Slope: 3.332

## Error Coefficients

Standard Error: 5920000  
 Relative Standard Error: 7.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.498274	12.5	514050.0	1.660912	Y
2	STD01 280-418017/13	1.0	2.412188	12.5	541899.0	2.412188	Y
3	STD02 280-418017/14	2.0	5.738318	12.5	583187.0	2.869159	Y
4	STD05 280-418017/15	5.0	17.147562	12.5	592211.0	3.429512	Y
5	ICIS 280-418017/16	10.0	35.08888	12.5	648428.0	3.508888	Y
6	STD30 280-418017/17	30.0	100.471918	12.5	686375.0	3.349064	Y
7	STD60 280-418017/18	60.0	198.282988	12.5	747891.0	3.304716	Y





# Calibration

/ 2-Chlorotoluene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

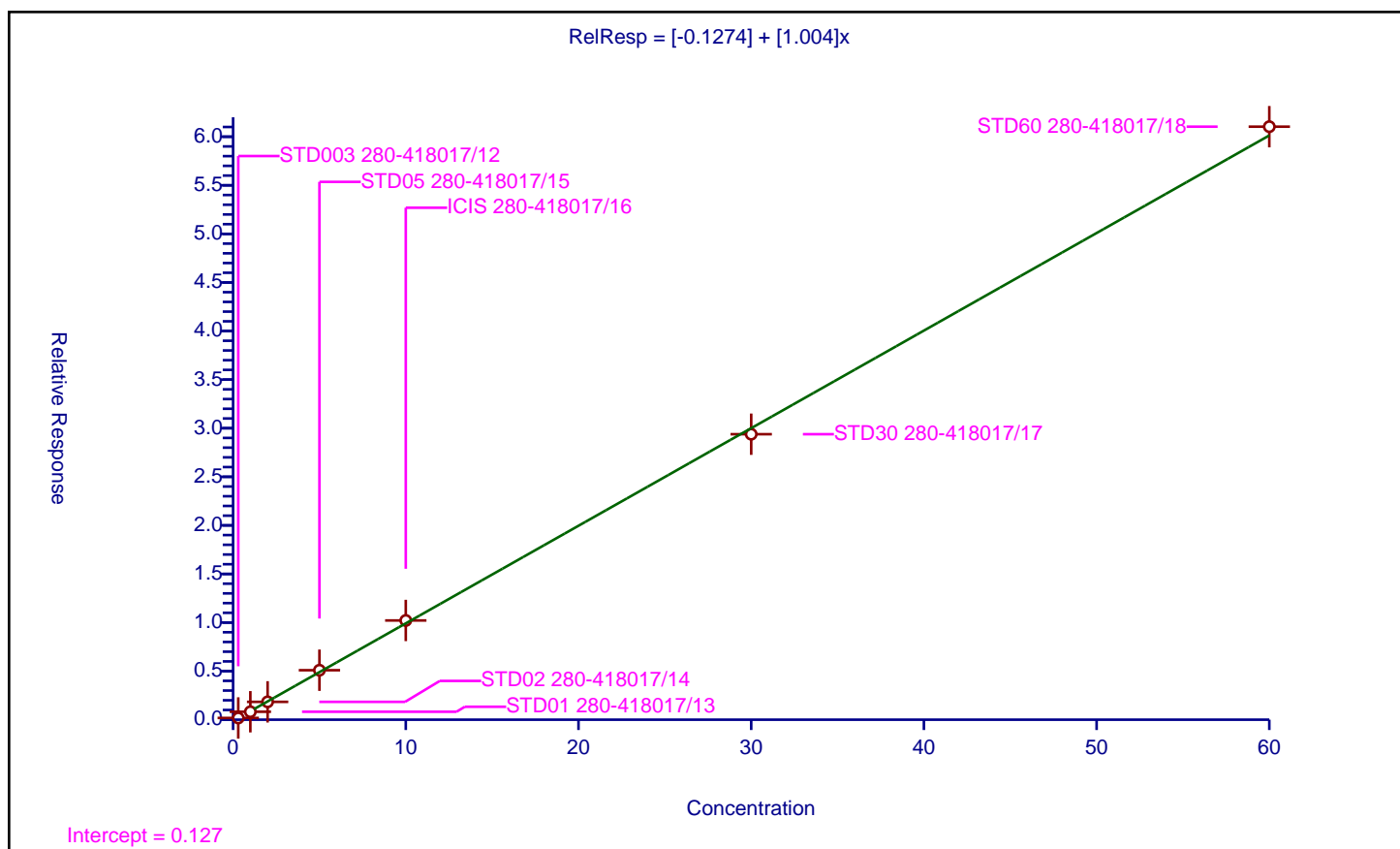
## Curve Coefficients

Intercept: -0.1274  
 Slope: 1.004

## Error Coefficients

Standard Error: 1800000  
 Relative Standard Error: 3.9  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.17936	12.5	514050.0	0.597867	Y
2	STD01 280-418017/13	1.0	0.816757	12.5	541899.0	0.816757	Y
3	STD02 280-418017/14	2.0	1.837918	12.5	583187.0	0.918959	Y
4	STD05 280-418017/15	5.0	5.091998	12.5	592211.0	1.0184	Y
5	ICIS 280-418017/16	10.0	10.212757	12.5	648428.0	1.021276	Y
6	STD30 280-418017/17	30.0	29.382918	12.5	686375.0	0.979431	Y
7	STD60 280-418017/18	60.0	61.033777	12.5	747891.0	1.01723	Y





# Calibration

/ 4-Chlorotoluene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

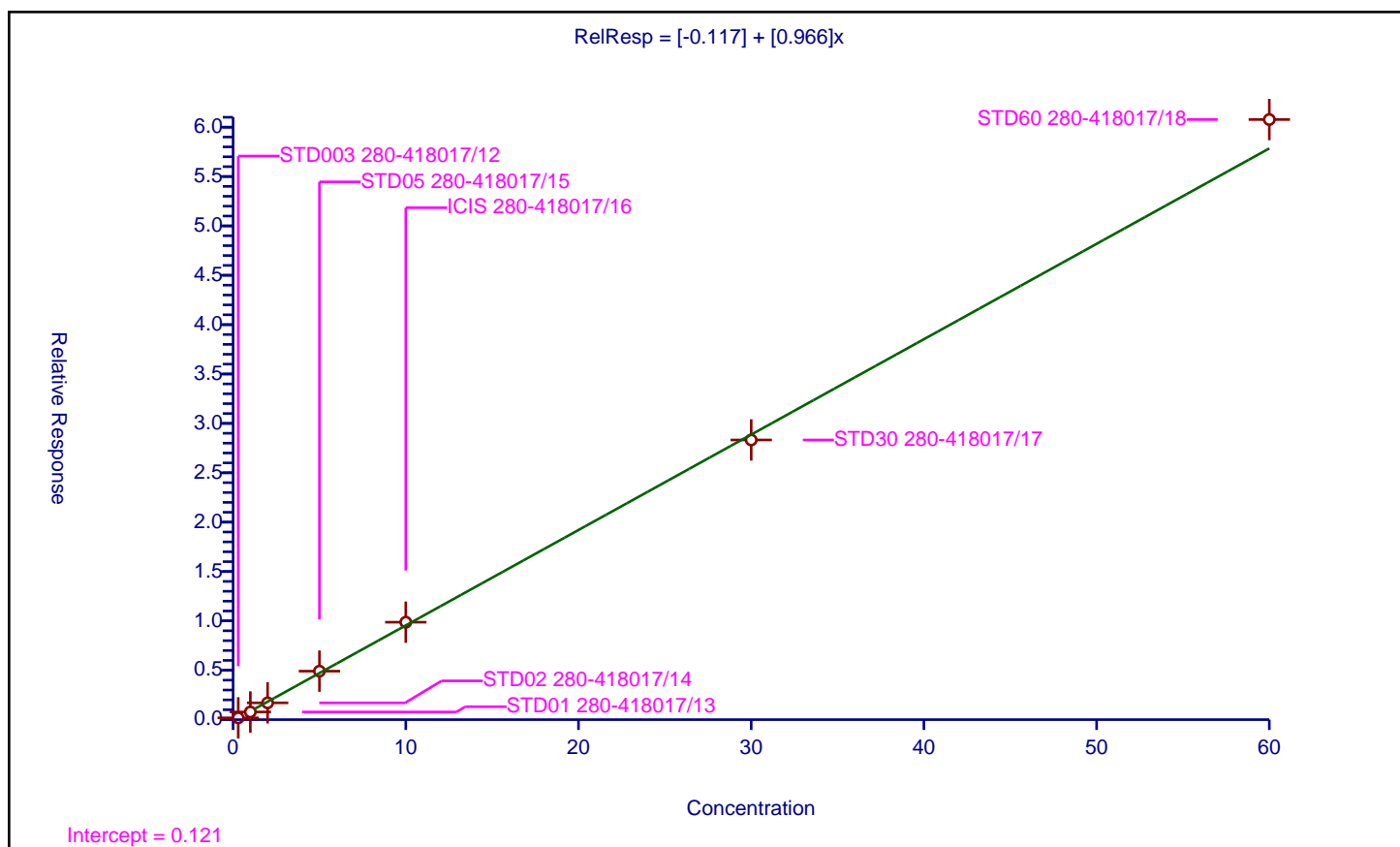
## Curve Coefficients

Intercept: -0.117  
 Slope: 0.966

## Error Coefficients

Standard Error: 1790000  
 Relative Standard Error: 5.6  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.180868	12.5	514050.0	0.602892	Y
2	STD01 280-418017/13	1.0	0.776229	12.5	541899.0	0.776229	Y
3	STD02 280-418017/14	2.0	1.701062	12.5	583187.0	0.850531	Y
4	STD05 280-418017/15	5.0	4.910623	12.5	592211.0	0.982125	Y
5	ICIS 280-418017/16	10.0	9.868675	12.5	648428.0	0.986867	Y
6	STD30 280-418017/17	30.0	28.322255	12.5	686375.0	0.944075	Y
7	STD60 280-418017/18	60.0	60.770403	12.5	747891.0	1.01284	Y





# Calibration

/ tert-Butylbenzene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

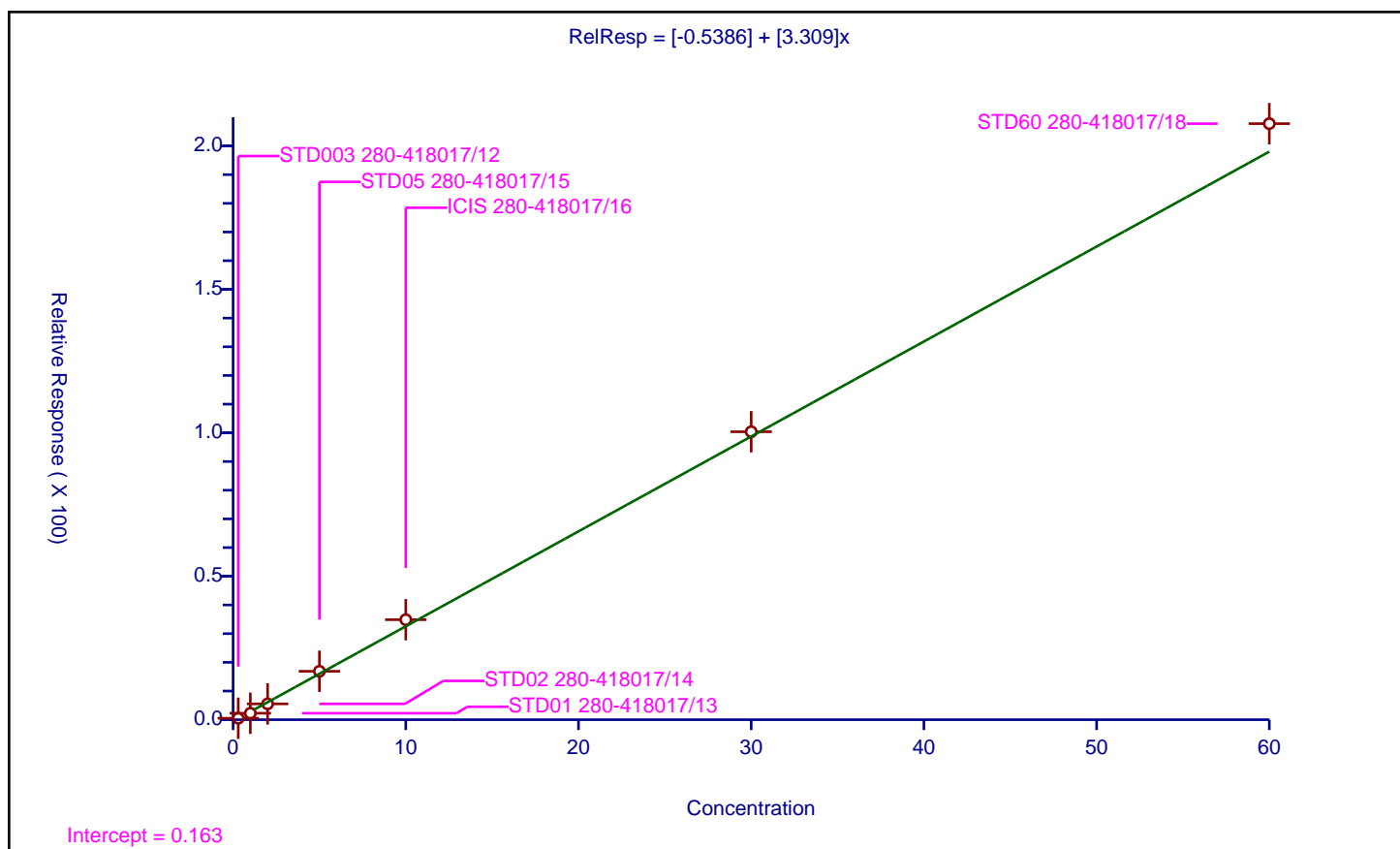
## Curve Coefficients

Intercept: -0.5386  
 Slope: 3.309

## Error Coefficients

Standard Error: 6150000  
 Relative Standard Error: 9.5  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.508	12.5	514050.0	1.693334	Y
2	STD01 280-418017/13	1.0	2.252265	12.5	541899.0	2.252265	Y
3	STD02 280-418017/14	2.0	5.514269	12.5	583187.0	2.757135	Y
4	STD05 280-418017/15	5.0	16.878169	12.5	592211.0	3.375634	Y
5	ICIS 280-418017/16	10.0	34.863952	12.5	648428.0	3.486395	Y
6	STD30 280-418017/17	30.0	100.375159	12.5	686375.0	3.345839	Y
7	STD60 280-418017/18	60.0	207.78215	12.5	747891.0	3.463036	Y





# Calibration

/ 1,2,4-Trimethylbenzene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

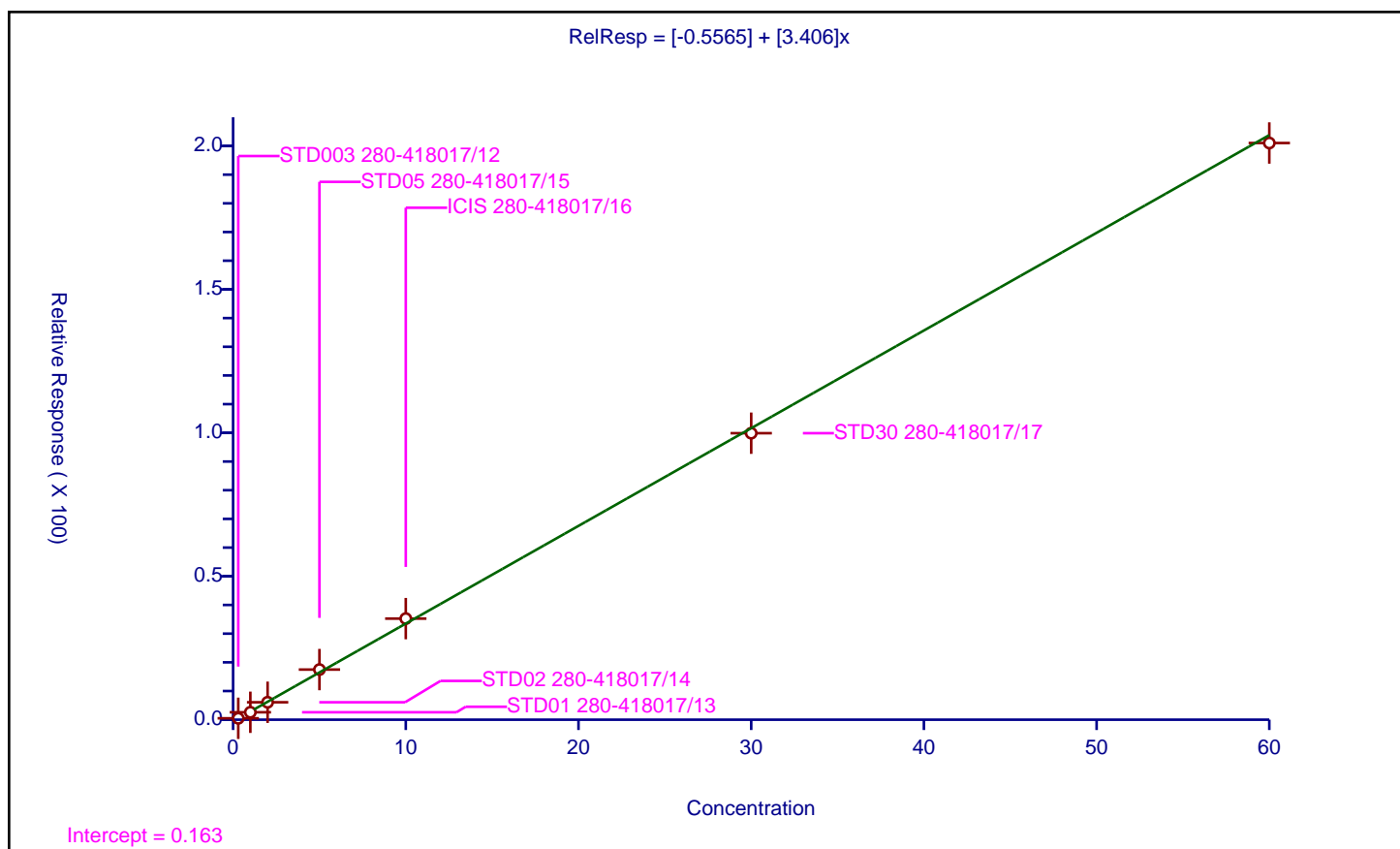
## Curve Coefficients

Intercept: -0.5565  
 Slope: 3.406

## Error Coefficients

Standard Error: 5980000  
 Relative Standard Error: 5.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.487331	12.5	514050.0	1.624437	Y
2	STD01 280-418017/13	1.0	2.592342	12.5	541899.0	2.592342	Y
3	STD02 280-418017/14	2.0	6.081047	12.5	583187.0	3.040523	Y
4	STD05 280-418017/15	5.0	17.472721	12.5	592211.0	3.494544	Y
5	ICIS 280-418017/16	10.0	35.242348	12.5	648428.0	3.524235	Y
6	STD30 280-418017/17	30.0	99.873648	12.5	686375.0	3.329122	Y
7	STD60 280-418017/18	60.0	201.033757	12.5	747891.0	3.350563	Y





# Calibration

/ sec-Butylbenzene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

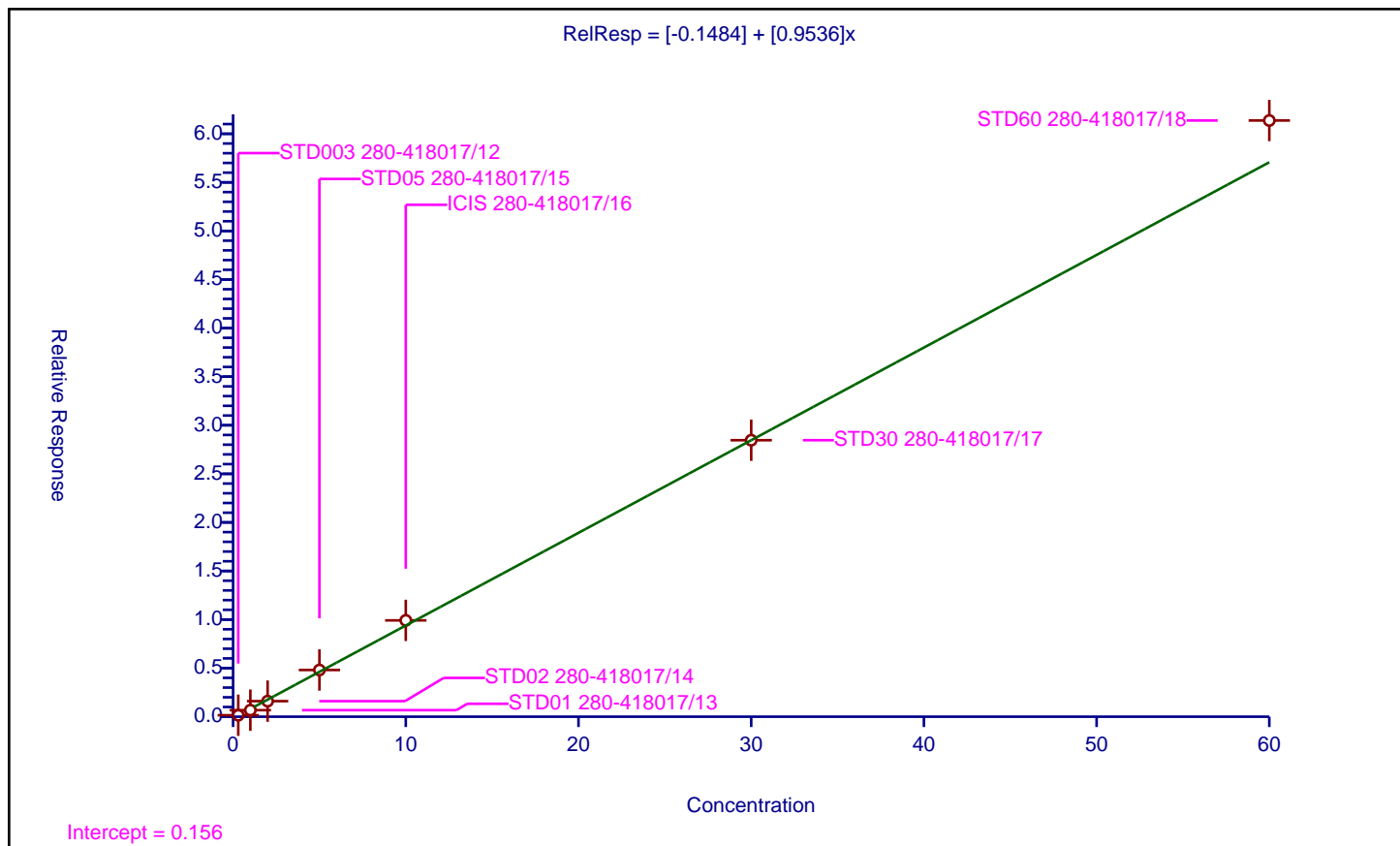
## Curve Coefficients

Intercept: -0.1484  
 Slope: 0.9536

## Error Coefficients

Standard Error: 1800000  
 Relative Standard Error: 8.7  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.151688	12.5	514050.0	0.505625	Y
2	STD01 280-418017/13	1.0	0.674849	12.5	541899.0	0.674849	Y
3	STD02 280-418017/14	2.0	1.602231	12.5	583187.0	0.801115	Y
4	STD05 280-418017/15	5.0	4.807767	12.5	592211.0	0.961553	Y
5	ICIS 280-418017/16	10.0	9.915885	12.5	648428.0	0.991589	Y
6	STD30 280-418017/17	30.0	28.460444	12.5	686375.0	0.948681	Y
7	STD60 280-418017/18	60.0	61.368819	12.5	747891.0	1.022814	Y





# Calibration

/ 4-Isopropyltoluene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

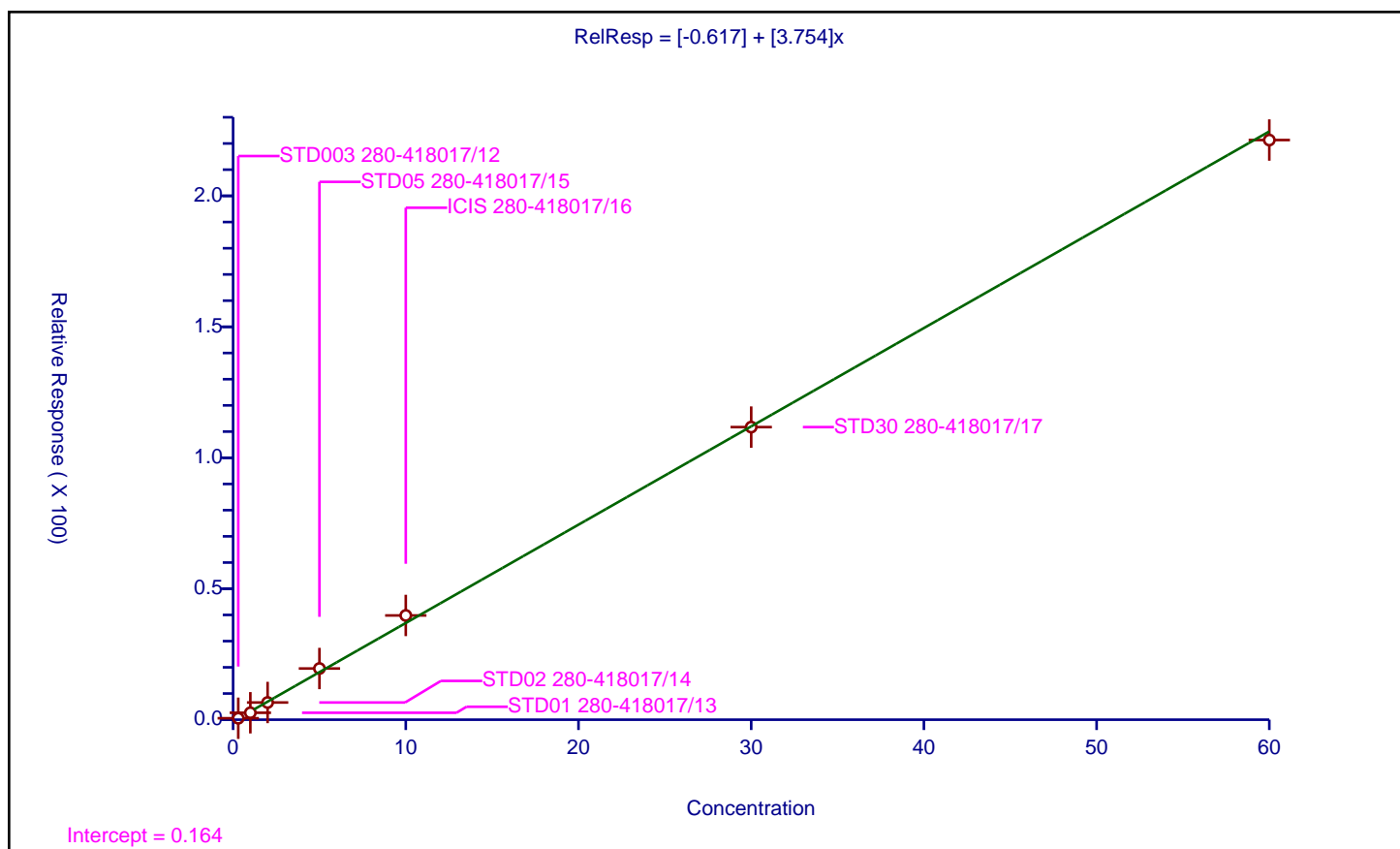
## Curve Coefficients

Intercept: -0.617  
 Slope: 3.754

## Error Coefficients

Standard Error: 6610000  
 Relative Standard Error: 8.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.552621	12.5	514050.0	1.842071	Y
2	STD01 280-418017/13	1.0	2.649917	12.5	541899.0	2.649917	Y
3	STD02 280-418017/14	2.0	6.567726	12.5	583187.0	3.283863	Y
4	STD05 280-418017/15	5.0	19.546475	12.5	592211.0	3.909295	Y
5	ICIS 280-418017/16	10.0	39.798231	12.5	648428.0	3.979823	Y
6	STD30 280-418017/17	30.0	111.711455	12.5	686375.0	3.723715	Y
7	STD60 280-418017/18	60.0	221.310609	12.5	747891.0	3.68851	Y





## Calibration

/ 1,3-Dichlorobenzene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

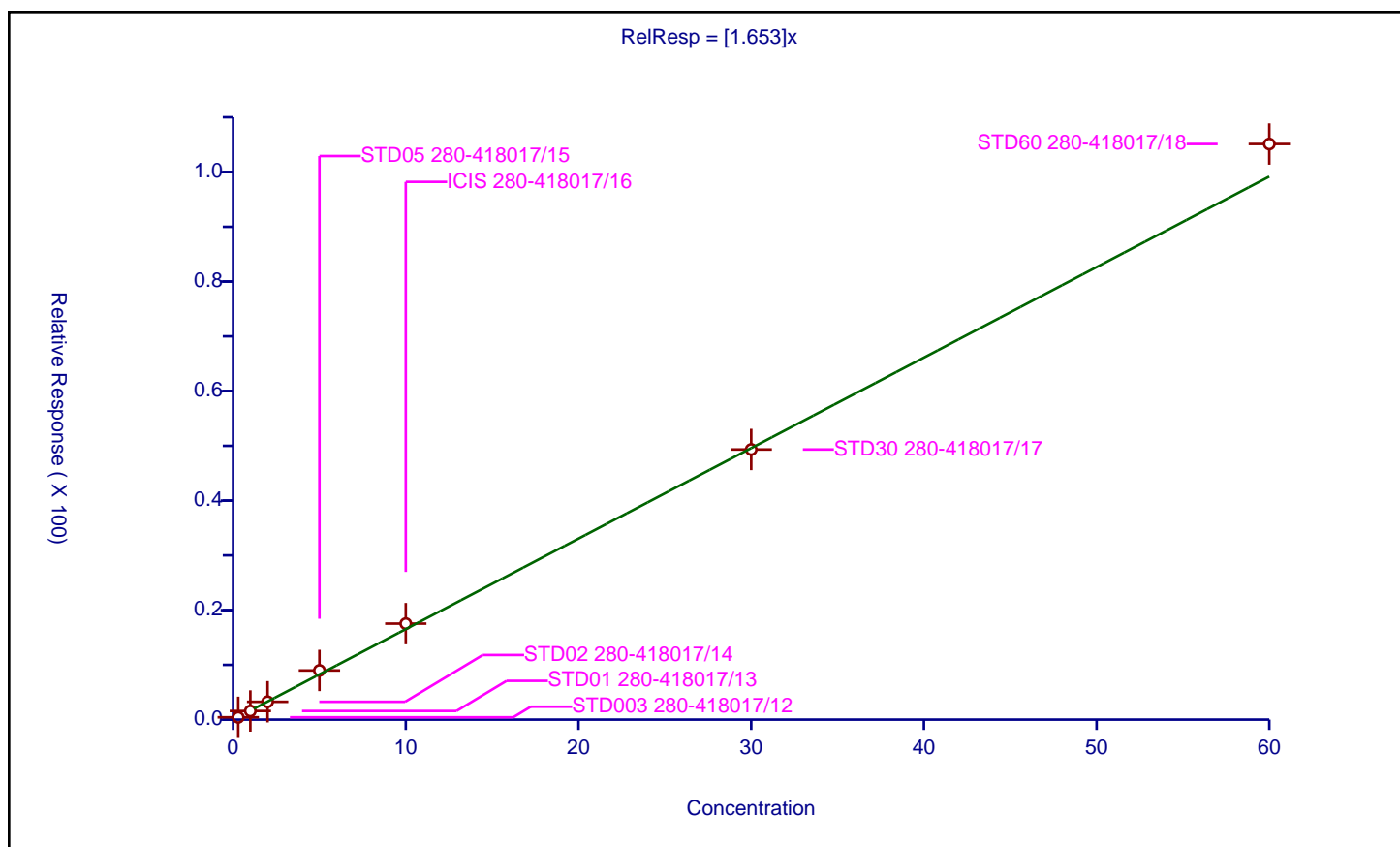
## Curve Coefficients

Intercept: 0  
Slope: 1.653

## Error Coefficients

Standard Error: 2830000  
Relative Standard Error: 8.0  
Correlation Coefficient: 0.996  
Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.423402	12.5	514050.0	1.411341	Y
2	STD01 280-418017/13	1.0	1.580207	12.5	541899.0	1.580207	Y
3	STD02 280-418017/14	2.0	3.264412	12.5	583187.0	1.632206	Y
4	STD05 280-418017/15	5.0	8.981596	12.5	592211.0	1.796319	Y
5	ICIS 280-418017/16	10.0	17.533057	12.5	648428.0	1.753306	Y
6	STD30 280-418017/17	30.0	49.337042	12.5	686375.0	1.644568	Y
7	STD60 280-418017/18	60.0	105.119446	12.5	747891.0	1.751991	Y





# Calibration

/ 1,4-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

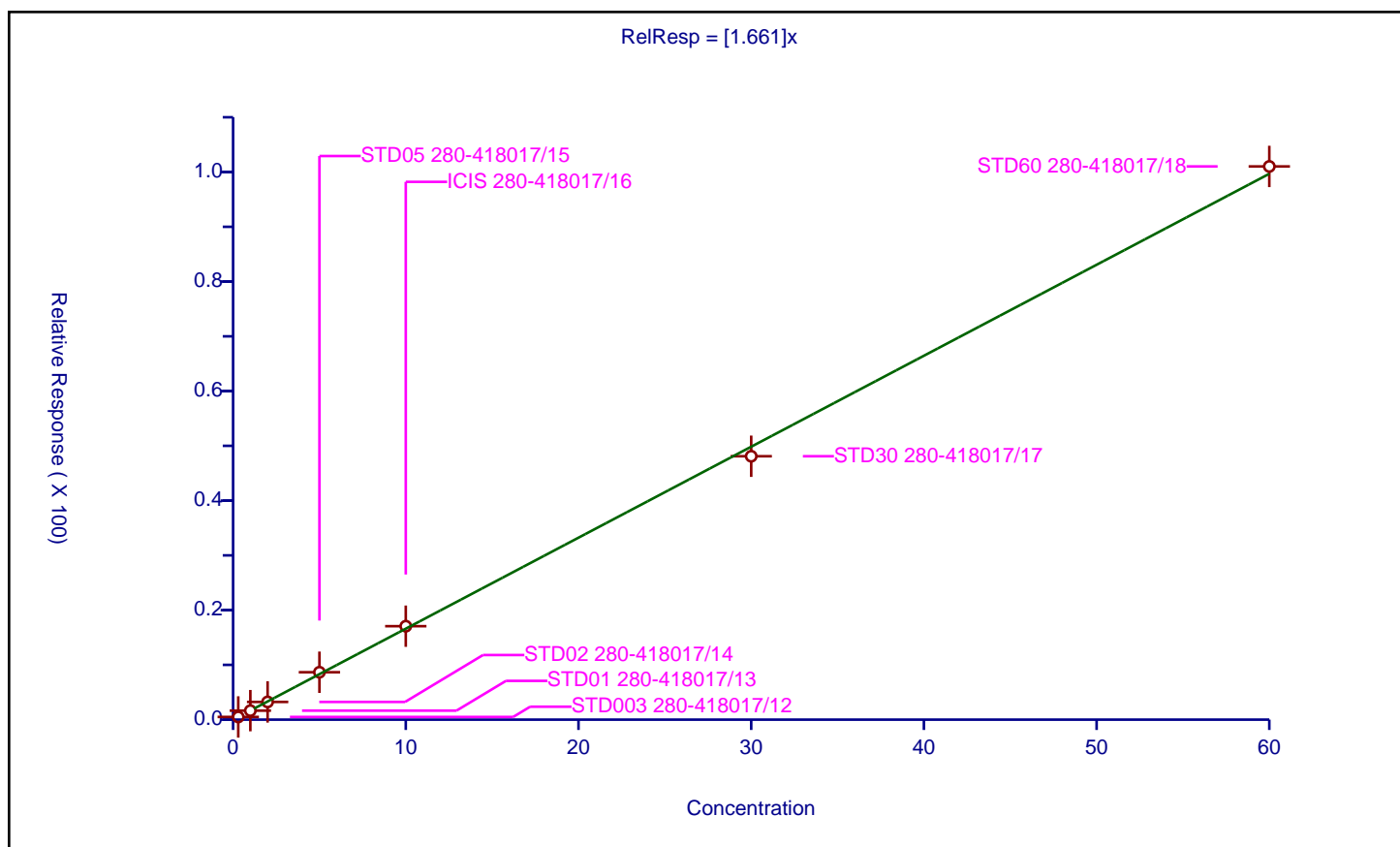
## Curve Coefficients

Intercept: 0  
 Slope: 1.661

## Error Coefficients

Standard Error: 2720000  
 Relative Standard Error: 2.8  
 Correlation Coefficient: 0.997  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.492024	12.5	514050.0	1.64008	Y
2	STD01 280-418017/13	1.0	1.646109	12.5	541899.0	1.646109	Y
3	STD02 280-418017/14	2.0	3.236676	12.5	583187.0	1.618338	Y
4	STD05 280-418017/15	5.0	8.655614	12.5	592211.0	1.731123	Y
5	ICIS 280-418017/16	10.0	17.064886	12.5	648428.0	1.706489	Y
6	STD30 280-418017/17	30.0	48.102313	12.5	686375.0	1.60341	Y
7	STD60 280-418017/18	60.0	101.023394	12.5	747891.0	1.683723	Y





# Calibration

/ n-Butylbenzene

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

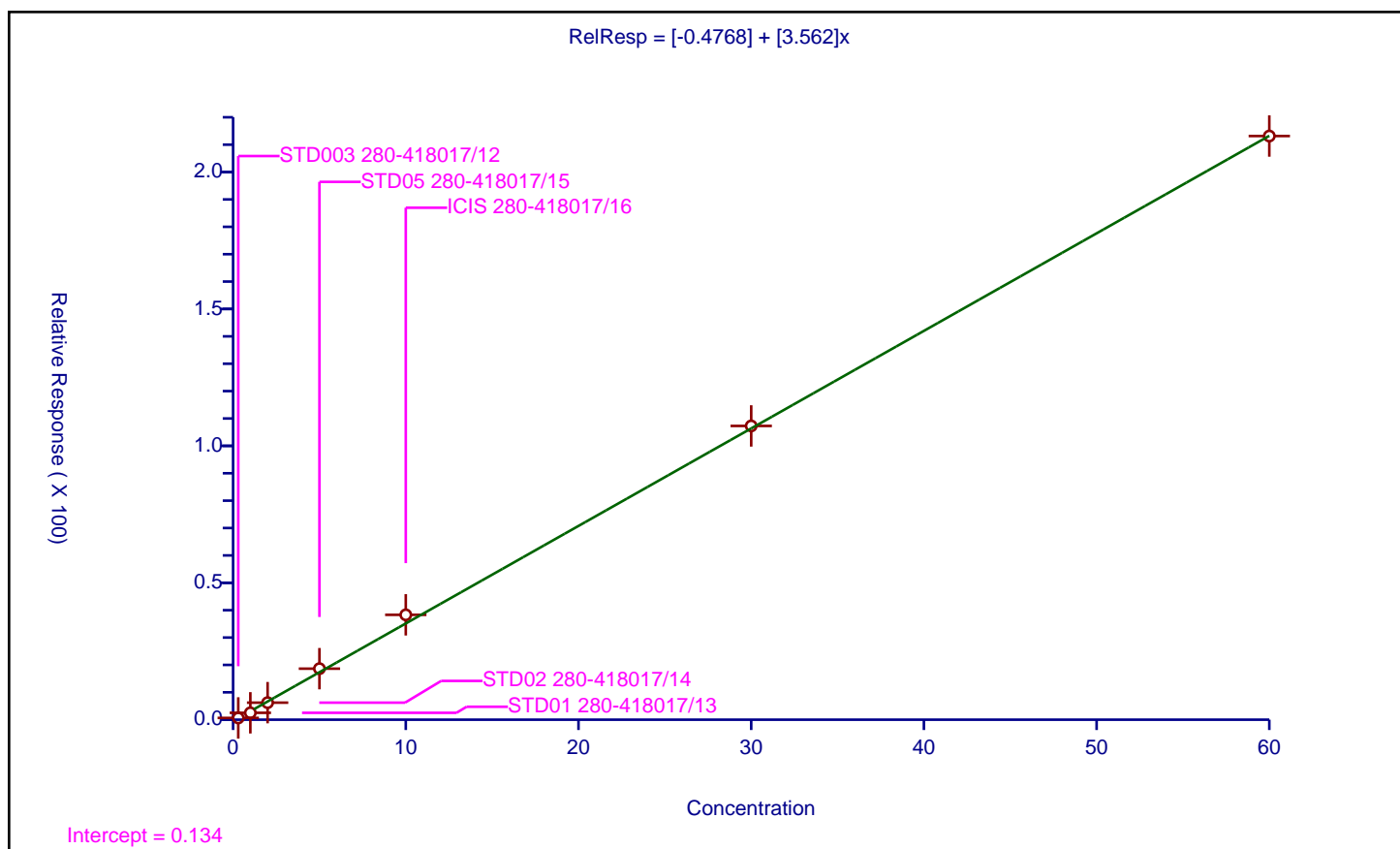
## Curve Coefficients

Intercept: -0.4768  
 Slope: 3.562

## Error Coefficients

Standard Error: 6360000  
 Relative Standard Error: 9.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.645171	12.5	514050.0	2.150569	Y
2	STD01 280-418017/13	1.0	2.511446	12.5	541899.0	2.511446	Y
3	STD02 280-418017/14	2.0	6.226862	12.5	583187.0	3.113431	Y
4	STD05 280-418017/15	5.0	18.638923	12.5	592211.0	3.727785	Y
5	ICIS 280-418017/16	10.0	38.294768	12.5	648428.0	3.829477	Y
6	STD30 280-418017/17	30.0	107.283555	12.5	686375.0	3.576118	Y
7	STD60 280-418017/18	60.0	213.152986	12.5	747891.0	3.55255	Y





# Calibration

/ 1,2-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

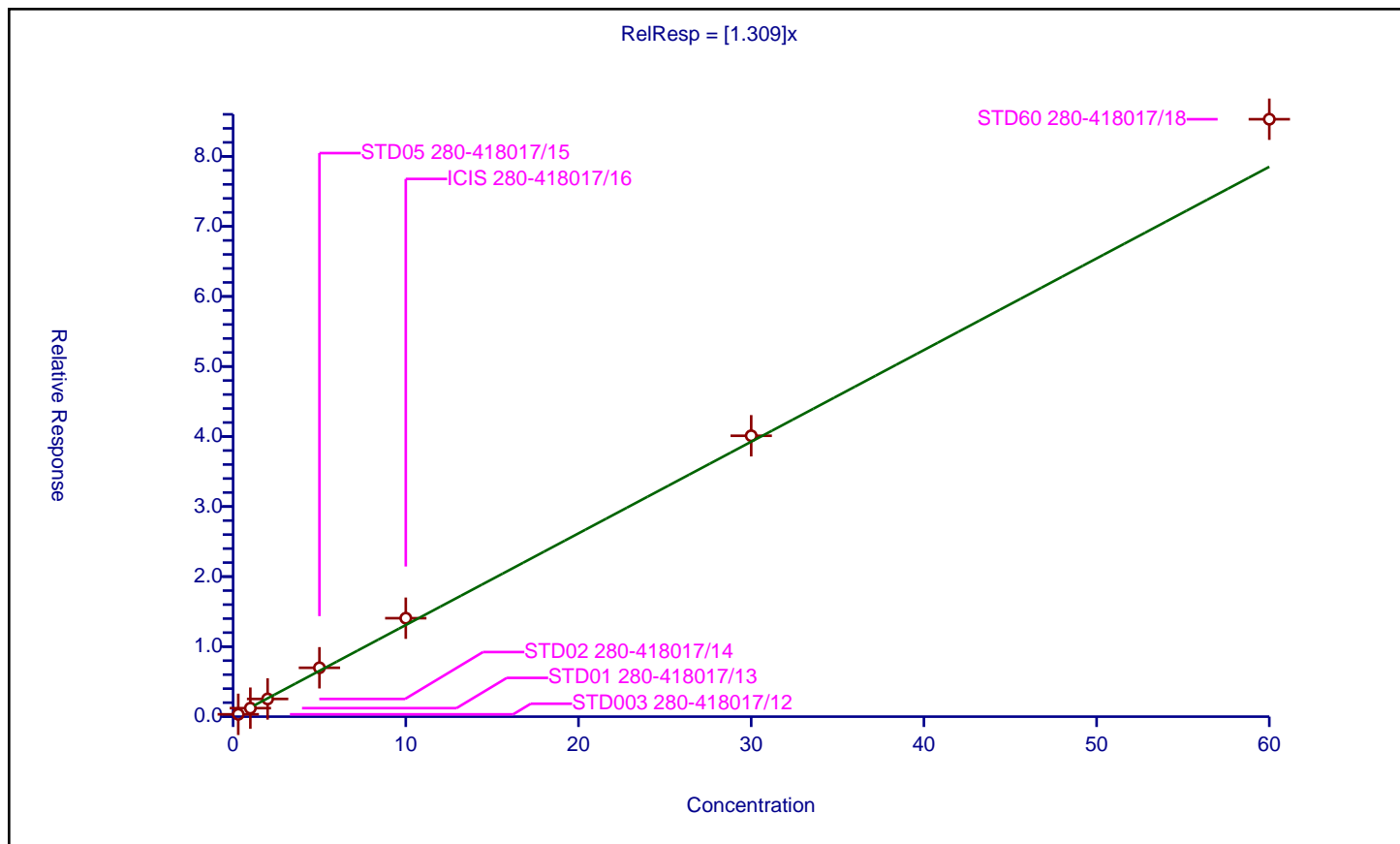
## Curve Coefficients

Intercept: 0  
 Slope: 1.309

## Error Coefficients

Standard Error: 2290000  
 Relative Standard Error: 8.7  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.335303	12.5	514050.0	1.117677	Y
2	STD01 280-418017/13	1.0	1.21674	12.5	541899.0	1.21674	Y
3	STD02 280-418017/14	2.0	2.531006	12.5	583187.0	1.265503	Y
4	STD05 280-418017/15	5.0	6.977433	12.5	592211.0	1.395487	Y
5	ICIS 280-418017/16	10.0	14.059406	12.5	648428.0	1.405941	Y
6	STD30 280-418017/17	30.0	40.108177	12.5	686375.0	1.336939	Y
7	STD60 280-418017/18	60.0	85.302888	12.5	747891.0	1.421715	Y





# Calibration

/ 1,2-Dibromo-3-Chloropropane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

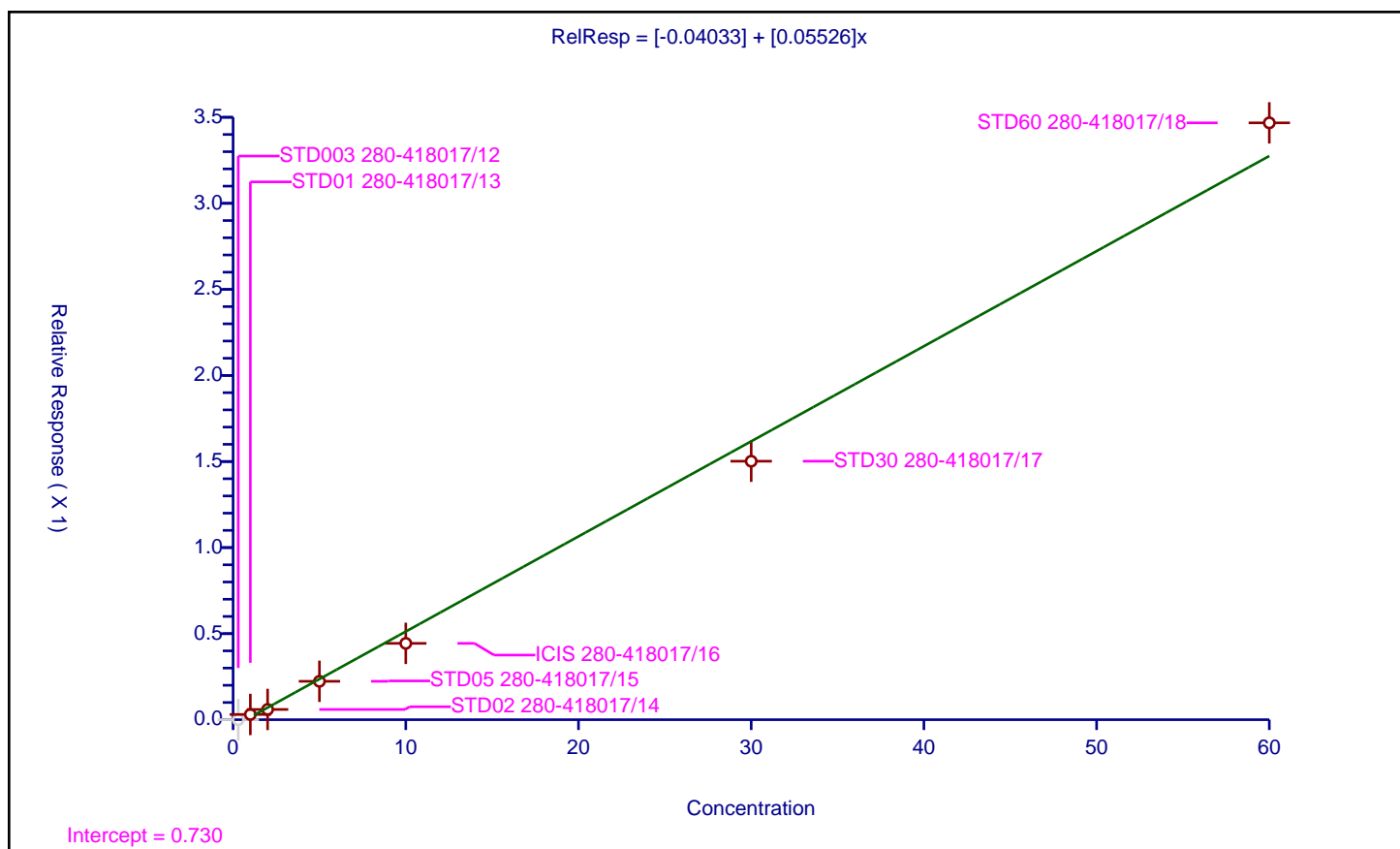
## Curve Coefficients

Intercept: -0.04033  
 Slope: 0.05526

## Error Coefficients

Standard Error: 112000  
 Relative Standard Error: 16.8  
 Correlation Coefficient: 0.991  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.0	12.5	514050.0	0.0	N
2	STD01 280-418017/13	1.0	0.030333	12.5	541899.0	0.030333	Y
3	STD02 280-418017/14	2.0	0.059586	12.5	583187.0	0.029793	Y
4	STD05 280-418017/15	5.0	0.22302	12.5	592211.0	0.044604	Y
5	ICIS 280-418017/16	10.0	0.443438	12.5	648428.0	0.044344	Y
6	STD30 280-418017/17	30.0	1.501839	12.5	686375.0	0.050061	Y
7	STD60 280-418017/18	60.0	3.467651	12.5	747891.0	0.057794	Y





# Calibration

/ 1,2,4-Trichlorobenzene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

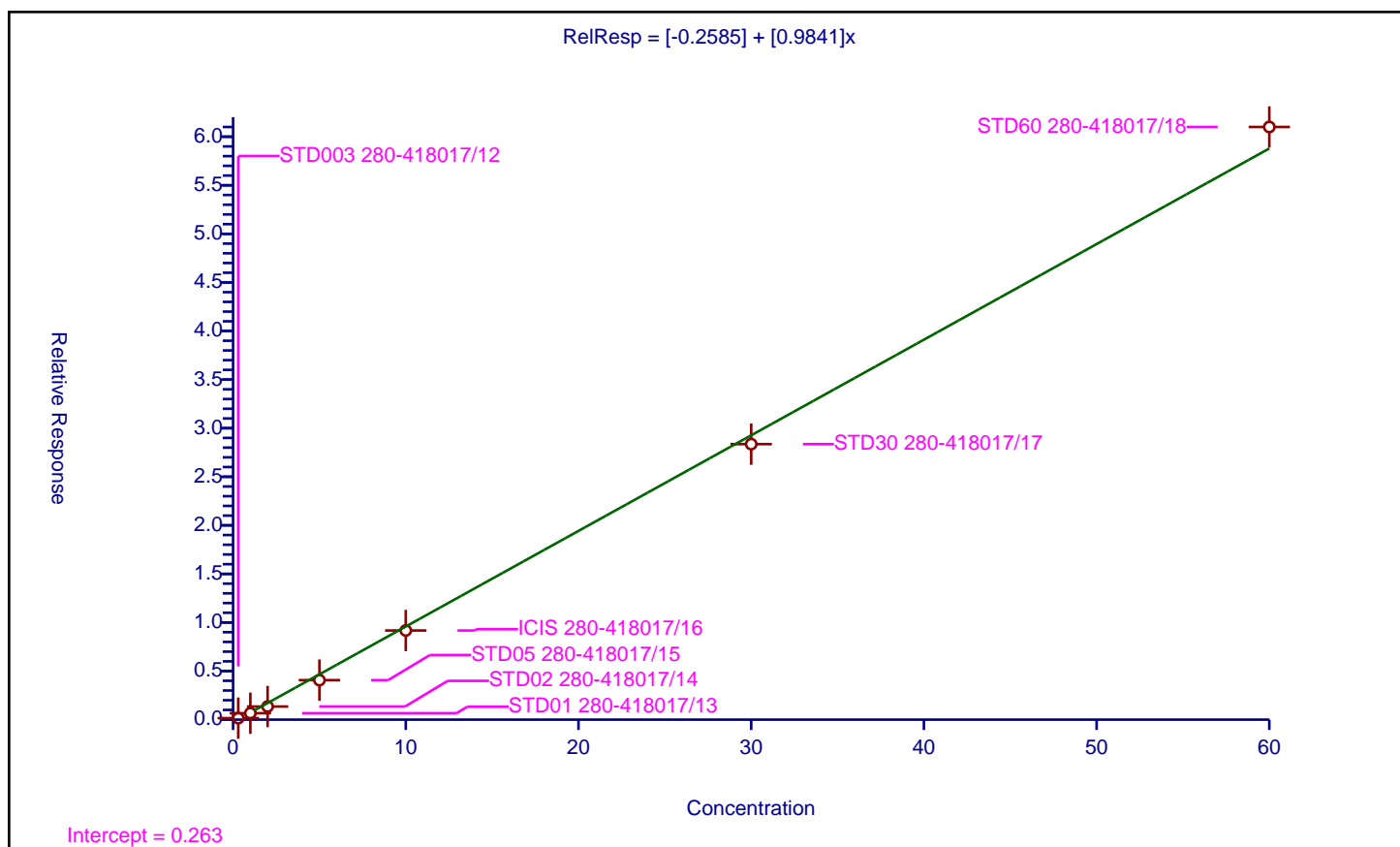
## Curve Coefficients

Intercept: -0.2585  
 Slope: 0.9841

## Error Coefficients

Standard Error: 1790000  
 Relative Standard Error: 20.8  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.155286	12.5	514050.0	0.517622	Y
2	STD01 280-418017/13	1.0	0.663477	12.5	541899.0	0.663477	Y
3	STD02 280-418017/14	2.0	1.351239	12.5	583187.0	0.675619	Y
4	STD05 280-418017/15	5.0	4.064345	12.5	592211.0	0.812869	Y
5	ICIS 280-418017/16	10.0	9.176115	12.5	648428.0	0.917612	Y
6	STD30 280-418017/17	30.0	28.360007	12.5	686375.0	0.945334	Y
7	STD60 280-418017/18	60.0	61.00157	12.5	747891.0	1.016693	Y





## Calibration

/ Hexachlorobutadiene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

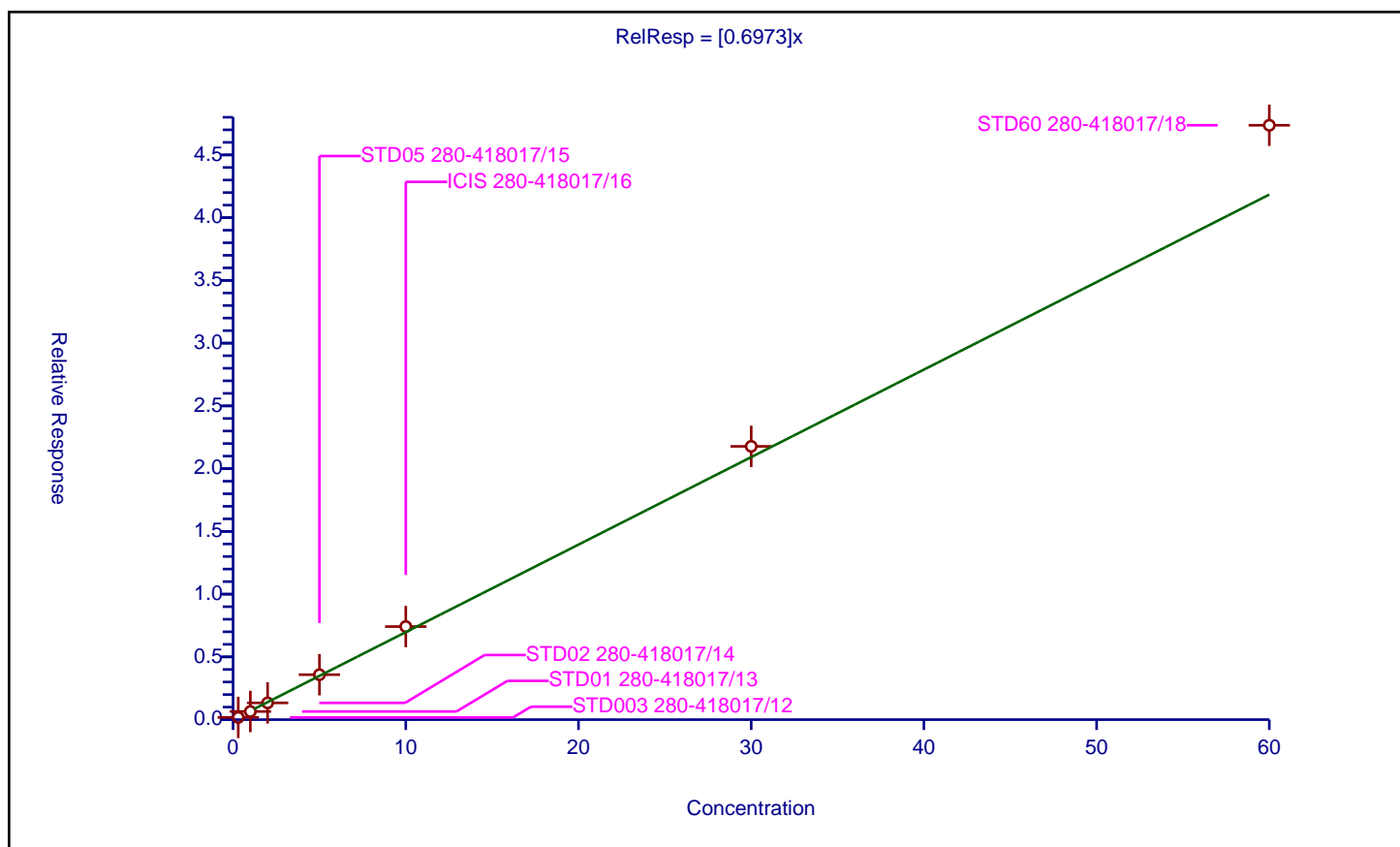
## Curve Coefficients

Intercept: 0  
Slope: 0.6973

## Error Coefficients

Standard Error: 1270000  
Relative Standard Error: 9.5  
Correlation Coefficient: 0.995  
Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.177342	12.5	514050.0	0.591139	Y
2	STD01 280-418017/13	1.0	0.648806	12.5	541899.0	0.648806	Y
3	STD02 280-418017/14	2.0	1.336042	12.5	583187.0	0.668021	Y
4	STD05 280-418017/15	5.0	3.582676	12.5	592211.0	0.716535	Y
5	ICIS 280-418017/16	10.0	7.415607	12.5	648428.0	0.741561	Y
6	STD30 280-418017/17	30.0	21.776052	12.5	686375.0	0.725868	Y
7	STD60 280-418017/18	60.0	47.363052	12.5	747891.0	0.789384	Y





## Calibration

/ Naphthalene

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

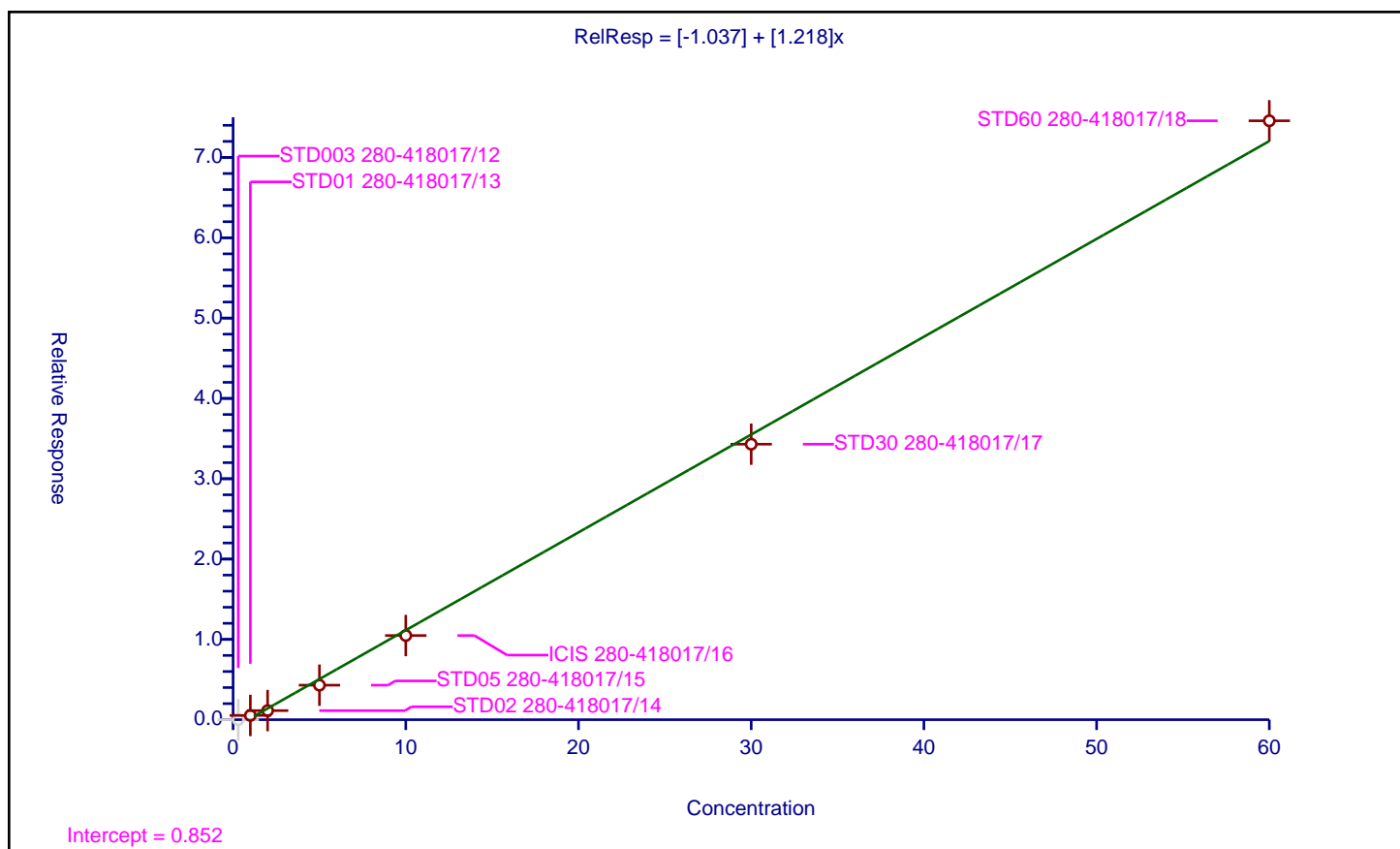
## Curve Coefficients

Intercept: -1.037  
Slope: 1.218

## Error Coefficients

Standard Error: 2440000  
Relative Standard Error: 16.9  
Correlation Coefficient: 0.995  
Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.0	12.5	514050.0	0.0	N
2	STD01 280-418017/13	1.0	0.528812	12.5	541899.0	0.528812	Y
3	STD02 280-418017/14	2.0	1.13152	12.5	583187.0	0.56576	Y
4	STD05 280-418017/15	5.0	4.298151	12.5	592211.0	0.85963	Y
5	ICIS 280-418017/16	10.0	10.479305	12.5	648428.0	1.047931	Y
6	STD30 280-418017/17	30.0	34.302113	12.5	686375.0	1.143404	Y
7	STD60 280-418017/18	60.0	74.564141	12.5	747891.0	1.242736	Y





# Calibration

/ 1,2,3-Trichlorobenzene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

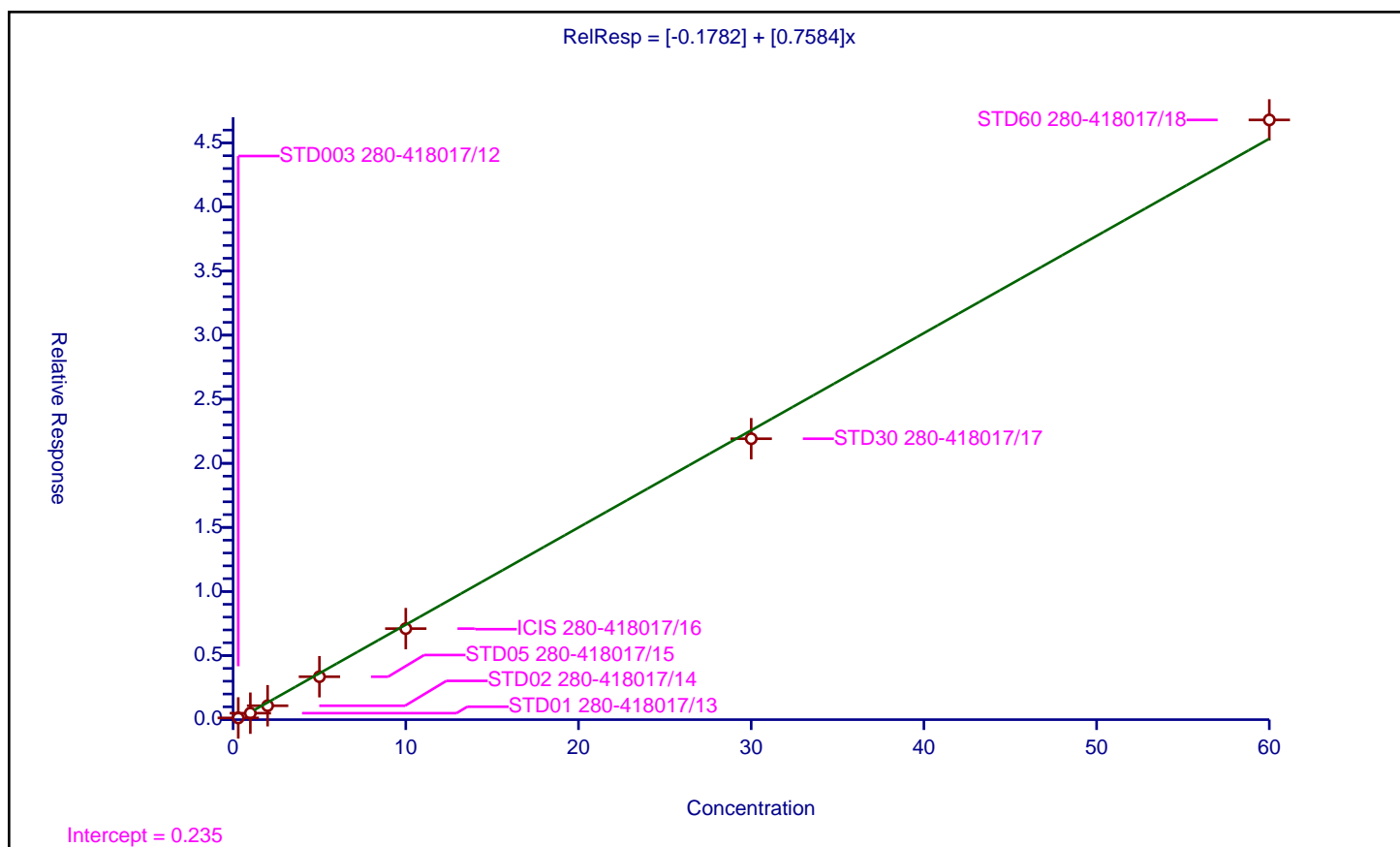
## Curve Coefficients

Intercept: -0.1782  
 Slope: 0.7584

## Error Coefficients

Standard Error: 1370000  
 Relative Standard Error: 19.1  
 Correlation Coefficient: 0.996  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD003 280-418017/12	0.3	0.13362	12.5	514050.0	0.445401	Y
2	STD01 280-418017/13	1.0	0.505837	12.5	541899.0	0.505837	Y
3	STD02 280-418017/14	2.0	1.086423	12.5	583187.0	0.543211	Y
4	STD05 280-418017/15	5.0	3.351044	12.5	592211.0	0.670209	Y
5	ICIS 280-418017/16	10.0	7.102273	12.5	648428.0	0.710227	Y
6	STD30 280-418017/17	30.0	21.918321	12.5	686375.0	0.730611	Y
7	STD60 280-418017/18	60.0	46.794018	12.5	747891.0	0.7799	Y





FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-421403/10	MS9_2368.D
Level 2	STD1 280-421403/11	MS9_2367.D
Level 3	STD2 280-421403/12	MS9_2366.D
Level 4	STD5 280-421403/13	MS9_2365.D
Level 5	STD10 280-421403/14	MS9_2364.D
Level 6	STD30 280-421403/15	MS9_2363.D
Level 7	STD60 280-421403/16	MS9_2362.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	+++++ 0.5878	0.7351 0.5849	0.6156	0.6764	0.6641	Ave		0.6440				9.1		15.0			
Chloromethane	+++++ 0.5152	0.7235 0.4767	0.6799	0.6576	0.6056	Lin1	0.3797	0.4927			0.1000				0.9930		0.9900
Vinyl chloride	+++++ 0.5633	0.7302 0.5213	0.7317	0.7119	0.6469	Ave		0.6509				13.9		30.0			
Bromomethane	0.5842 0.3706	0.4800 0.3480	0.4621	0.4460	0.4124	Lin2	0.0594	0.3994							0.9910		0.9900
Chloroethane	0.4457 0.2967	0.3679 0.2741	0.3697	0.3681	0.3303	Lin1	0.0849	0.2875							0.9930		0.9900
Dichlorofluoromethane	1.2079 0.7280	0.9315 0.6754	0.9100	0.9027	0.8166	Lin2	0.1330	0.7832							0.9900		0.9900
Trichlorofluoromethane	1.2398 0.7350	0.9504 0.6928	0.9243	0.9034	0.8159	Lin2	0.1408	0.7903							0.9920		0.9900
Ethyl ether	+++++ 0.1516	0.2116 0.1343	0.1856	0.1792	0.1704	Lin2	0.0632	0.1526							0.9910		0.9900
Acrolein	0.0232 0.0168	0.0209 0.0150	0.0202	0.0190	0.0180	Lin2	0.0190	0.0176							0.9910		0.9900
Freon 113	0.5654 0.3777	0.4922 0.3471	0.4588	0.4411	0.4198	Lin2	0.0534	0.4036							0.9910		0.9900
1,1-Dichloroethene	0.5763 0.3715	0.4795 0.3478	0.4491	0.4361	0.4117	Lin2	0.0580	0.3959							0.9930		0.9900
Acetone	0.1714 0.0282	0.0750 0.0249	0.0526	0.0371	0.0321	Lin2	0.1739	0.0280							0.9900		0.9900
Iodomethane	+++++ 0.6332	0.8335 0.5822	0.7738	0.7293	0.6989	Ave		0.7085				12.9		15.0			
Methyl acetate	0.1532 0.0712	0.1033 0.0648	0.0909	0.0848	0.0791	Lin2	0.0486	0.0745							0.9930		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.9344 0.5886	0.7524 0.5457	0.6962	0.6865	0.6450	Lin2	0.0997	0.6189							0.9940		0.9900
Carbon disulfide	2.1142 1.4094	1.7301 1.2901	1.6740	1.6121	1.5383	Lin2	0.2031	1.4736							0.9940		0.9900
Tert-butyl alcohol (2-methyl-2-propanol)	0.0137 0.0103	0.0128 0.0092	0.0116	0.0117	0.0108	Ave		0.0114				13.3		15.0			
Methylene Chloride	++++ 0.3076	0.4669 0.2772	0.4029	0.3654	0.3384	Lin2	0.1705	0.3072							0.9930		0.9900
Methyl tert-butyl ether	0.6820 0.4774	0.6170 0.4317	0.5677	0.5523	0.5245	Lin2	0.0592	0.5065							0.9900		0.9900
trans-1,2-Dichloroethene	0.6079 0.3906	0.5124 0.3552	0.4783	0.4521	0.4275	Lin2	0.0633	0.4137							0.9910		0.9900
Acrylonitrile	0.0512 0.0323	0.0419 0.0290	0.0377	0.0383	0.0368	Lin2	0.0542	0.0342							0.9910		0.9900
Hexane	3.5952 2.3583	2.9768 2.1566	2.8238	2.7603	2.6487	Lin2	0.3497	2.5010							0.9920		0.9900
Vinyl acetate	0.3243 0.2444	0.2991 0.2260	0.2682	0.2808	0.2635	Ave		0.2723				12.1		15.0			
1,1-Dichloroethane	0.9785 0.6090	0.8183 0.5616	0.7212	0.7182	0.6708	Lin2	0.1074	0.6458			0.1000				0.9920		0.9900
Methyl ethyl ketone (MEK)	0.1143 0.0479	0.0737 0.0441	0.0623	0.0593	0.0547	Lin2	0.0782	0.0507							0.9920		0.9900
sec-Butyl Alcohol	++++ 1.0272	1.2230 0.9147	1.1685	1.1219	1.1269	Ave		1.0970				10.0		15.0			
2,2-Dichloropropane	++++ 0.6182	0.7552 0.5906	0.7057	0.6939	0.6629	Lin2	0.1396	0.6280							0.9970		0.9900
cis-1,2-Dichloroethene	++++ 0.3760	0.5205 0.3436	0.4638	0.4380	0.4113	Lin2	0.1534	0.3782							0.9940		0.9900
Tetrahydrofuran	++++ 0.0300	0.0376 0.0271	0.0403	0.0345	0.0330	Ave		0.0337				14.3		15.0			
Chloroform	0.9093 0.5770	0.7752 0.5398	0.7252	0.6771	0.6403	Lin2	0.0944	0.6221							0.9900		0.9900
Chlorobromomethane	0.2199 0.1416	0.1852 0.1280	0.1715	0.1651	0.1560	Lin2	0.0227	0.1499							0.9910		0.9900
1,1,1-Trichloroethane	1.0151 0.6509	0.8175 0.6150	0.7803	0.7530	0.7104	Lin2	0.1037	0.6864							0.9950		0.9900
Isobutyl alcohol	++++ 1.0998	1.3459 0.9742	1.2159	1.1573	1.1880	Ave		1.1635				10.6		15.0			
Cyclohexane	++++ 0.7079	0.8796 0.6507	0.8590	0.8160	0.7826	Ave		0.7826				11.3		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.8263 0.5388	0.7002 0.5124	0.6590	0.6357	0.5950	Lin2	0.0804	0.5787							0.9930		0.9900
Carbon tetrachloride	0.9329 0.6144	0.7502 0.5843	0.7181	0.6856	0.6601	Lin2	0.0922	0.6383							0.9970		0.9900
n-Heptane	0.9817 0.6262	0.7995 0.5927	0.7840	0.7468	0.7117	Lin2	0.0972	0.6770							0.9920		0.9900
Benzene	1.9746 1.2249	1.6666 1.1403	1.5263	1.4544	1.3819	Lin2	0.2126	1.3239							0.9900		0.9900
1,2-Dichloroethane	0.5472 0.3088	0.4273 0.2889	0.3878	0.3589	0.3424	Lin2	0.0695	0.3287							0.9920		0.9900
Trichloroethene	0.6430 0.4020	0.5126 0.3787	0.4899	0.4765	0.4573	Lin2	0.0669	0.4304							0.9930		0.9900
2-Pentanone	++++ 0.0690	0.0942 0.0695	0.0905	0.0860	0.0885	Ave		0.0829				13.2		15.0			
Methylcyclohexane	++++ 0.5884	0.7442 0.5563	0.7279	0.6935	0.6490	Ave		0.6599				11.5		15.0			
1,2-Dichloropropane	0.4593 0.2908	0.3829 0.2674	0.3561	0.3393	0.3237	Lin2	0.0484	0.3098							0.9910		0.9900
1,4-Dioxane	++++ 0.0013	0.0016 0.0013	0.0014	0.0016	0.0015	Ave		0.0014				8.5		15.0			
Dibromomethane	0.2097 0.1289	0.1642 0.1182	0.1602	0.1483	0.1435	Lin2	0.0232	0.1361							0.9920		0.9900
Dichlorobromomethane	0.5441 0.3770	0.4744 0.3548	0.4428	0.4290	0.4208	Lin2	0.0469	0.4000							0.9940		0.9900
2-Chloroethyl vinyl ether	++++ 0.0923	0.1029 0.0873	0.1048	0.1036	0.1045	Ave		0.0992				7.6		15.0			
cis-1,3-Dichloropropene	2.1726 1.5651	1.8919 1.4406	1.7373	1.7631	1.7317	Ave		1.7575				13.3		15.0			
4-Methyl-2-pentanone (MIBK)	0.1248 0.0891	0.1091 0.0809	0.1041	0.1091	0.1004	Ave		0.1025				14.0		15.0			
Toluene	2.3329 1.3169	1.7937 1.2194	1.6493	1.5714	1.4818	Lin2	0.2922	1.4072							0.9920		0.9900
Ethyl methacrylate	0.9558 0.7050	0.7717 0.6372	0.7893	0.7708	0.7781	Ave		0.7725				12.6		15.0			
trans-1,3-Dichloropropene	0.4533 0.3172	0.3770 0.2967	0.3644	0.3569	0.3433	Lin2	0.0389	0.3296							0.9960		0.9900
1,1,2-Trichloroethane	0.2759 0.1650	0.2155 0.1510	0.2074	0.1969	0.1874	Lin2	0.0314	0.1766							0.9910		0.9900
Methyl n-butyl ketone (MNBK)	++++ 0.2390	0.2795 0.2139	0.2776	0.2761	0.2741	Ave		0.2600				10.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	2.2981 1.4443	1.9140 1.3611	1.7630	1.7307	1.6111	Lin2	0.2400	1.5541							0.9920		0.9900
1,3-Dichloropropane	++++ 1.0612	1.4350 0.9741	1.3226	1.2528	1.2127	Ave		1.2097				14.0		15.0			
Chlorodibromomethane	1.3582 0.9320	1.1065 0.8570	1.0201	0.9942	1.0206	Lin2	0.1275	0.9469							0.9970		0.9900
1,2-Dibromoethane	0.9659 0.6356	0.8334 0.5801	0.7290	0.7255	0.7247	Lin2	0.0956	0.6713							0.9920		0.9900
1-Chlorohexane	3.0852 2.1868	2.5179 2.0184	2.5625	2.5691	2.4307	Ave		2.4815				13.6		15.0			
Chlorobenzene	5.5291 3.3796	4.5248 3.0609	4.1011	3.9773	3.6881	Lin2	0.6306	3.5703			0.3000				0.9910		0.9900
Ethylbenzene	3.4003 2.2152	2.8003 2.0658	2.6875	2.5693	2.4672	Lin2	0.3343	2.3533							0.9930		0.9900
1,1,1,2-Tetrachloroethane	1.7808 1.2598	1.5393 1.1597	1.4628	1.4385	1.3966	Ave		1.4339				13.9		15.0			
m-Xylene & p-Xylene	7.7554 4.9029	6.0922 4.4652	5.8976	5.6810	5.3679	Lin2	0.8238	5.1274							0.9930		0.9900
o-Xylene	3.4869 2.4181	3.0860 2.2198	2.8986	2.8070	2.6295	Lin2	0.3064	2.5654							0.9920		0.9900
Styrene	4.7719 3.6050	4.2157 3.2930	4.0947	4.0892	3.8884	Ave		3.9940				11.8		15.0			
Bromoform	0.6240 0.5205	0.5590 0.4871	0.5507	0.5389	0.5523	Ave		0.5475			0.1000	7.6		15.0			
Isopropylbenzene	6.1732 3.9202	5.1282 3.6628	4.8507	4.8293	4.5629	Lin2	0.6082	4.2821							0.9900		0.9900
Cyclohexanone	++++ 0.0131	0.0160 0.0119	0.0141	0.0151	0.0139	Ave		0.0140				10.2		15.0			
1,1,2,2-Tetrachloroethane	++++ 0.3944	0.5298 0.3641	0.4984	0.4916	0.4695	Ave		0.4580			0.3000	14.1		15.0			
trans-1,4-Dichloro-2-butene	0.1755 0.1509	0.2160 0.1415	0.1720	0.1702	0.1672	Ave		0.1705				13.8		15.0			
N-Propylbenzene	++++ 1.2644	1.7056 1.2028	1.5699	1.5426	1.4235	Lin2	0.4356	1.3172							0.9920		0.9900
1,2,3-Trichloropropane	0.1846 0.1284	0.1644 0.1208	0.1640	0.1485	0.1516	Ave		0.1518				14.5		15.0			
Bromobenzene	1.5883 0.9122	1.2850 0.8576	1.1725	1.0993	1.0462	Lin1	0.3318	0.8916							0.9950		0.9900
1,3,5-Trimethylbenzene	5.0792 3.2648	4.2751 3.0539	4.0885	3.9868	3.7221	Lin2	0.4943	3.5584							0.9900		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	1.6727 1.0352	1.3638 0.9751	1.3058	1.2499	1.1699	Lin2	0.1766	1.1224							0.9910		0.9900
4-Chlorotoluene	1.7044 1.0470	1.3909 0.9748	1.2941	1.2822	1.1780	Lin2	0.1838	1.1313							0.9900		0.9900
tert-Butylbenzene	4.7218 3.0673	4.0482 2.9247	3.8030	3.7624	3.4662	Lin2	0.4478	3.3532							0.9910		0.9900
1,2,4-Trimethylbenzene	++++ 3.2967	4.4135 3.0664	4.0370	3.9410	3.7150	Lin2	1.1280	3.3971							0.9920		0.9900
sec-Butylbenzene	1.6990 1.0462	1.4157 1.0124	1.3149	1.2942	1.1918	Lin2	0.1774	1.1507							0.9910		0.9900
4-Isopropyltoluene	++++ 3.9539	5.1769 3.6703	4.8862	4.8184	4.4392	Lin2	1.2484	4.1059							0.9900		0.9900
1,3-Dichlorobenzene	3.0981 1.8362	2.4844 1.7101	2.2674	2.2351	2.0511	Lin2	0.3586	1.9748							0.9910		0.9900
1,4-Dichlorobenzene	++++ 1.7737	2.4685 1.6527	2.1940	2.1592	1.9862	Lin2	0.6982	1.8238							0.9920		0.9900
n-Butylbenzene	5.6485 3.7865	4.8355 3.5232	4.6614	4.5789	4.1817	Lin2	0.5130	4.0795							0.9910		0.9900
1,2-Dichlorobenzene	2.4892 1.4904	2.0263 1.3739	1.8728	1.8095	1.6839	Lin1	0.5144	1.4400							0.9940		0.9900
1,2-Dibromo-3-Chloropropane	++++ 0.0901	0.1040 0.0824	0.0945	0.0974	0.0945	Ave		0.0938				7.7		15.0			
1,2,4-Trichlorobenzene	++++ 1.1940	1.6366 1.0756	1.5270	1.4526	1.2955	Lin1	0.8059	1.1151							0.9950		0.9900
Hexachlorobutadiene	1.6826 1.0801	1.3790 0.9931	1.3229	1.3110	1.1394	Lin2	0.1728	1.1446							0.9910		0.9900
Naphthalene	2.1749 1.3553	1.7756 1.1986	1.6321	1.6004	1.4936	Lin2	0.2403	1.4264							0.9900		0.9900
1,2,3-Trichlorobenzene	++++ 0.9668	1.3212 0.8402	1.1901	1.1608	1.0567	Lin1	0.6650	0.8842							0.9920		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-421403/10	MS9_2368.D
Level 2	STD1 280-421403/11	MS9_2367.D
Level 3	STD2 280-421403/12	MS9_2366.D
Level 4	STD5 280-421403/13	MS9_2365.D
Level 5	STD10 280-421403/14	MS9_2364.D
Level 6	STD30 280-421403/15	MS9_2363.D
Level 7	STD60 280-421403/16	MS9_2362.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	+++++ 1468425	63348 2773126	107554	287334	579287	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Lin1	+++++ 1287073	62345 2260188	118784	279367	528320	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	+++++ 1407033	62927 2471702	127834	302439	564284	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Lin2	14485 925825	41360 1649933	80736	189473	359718	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Lin1	11051 741116	31703 1299419	64593	156389	288169	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Lin2	29949 1818555	80272 3202036	158983	383482	712347	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Lin2	30739 1835969	81901 3284782	161487	383791	711733	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Lin2	+++++ 378769	18236 636685	32431	76107	148637	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Lin2	5755 420087	18047 709504	35248	80732	156678	3.00 300	10.00 600	20.0	50.0	100.0
Freon 113	FB	Lin2	14019 943456	42413 1645708	80163	187393	366232	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Lin2	14289 928116	41323 1648754	78461	185272	359102	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acetone	FB	Lin2	17002 281878	25854 471586	36779	63057	111939	1.20 120	4.00 240	8.00	20.0	40.0
Iodomethane	FB	Ave	+++++ 1581832	71827 2760406	135199	309811	609658	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin2	7597 355481	17810 614503	31759	72036	137924	0.600 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Lin2	23166 1470385	64837 2587205	121641	291658	562691	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Lin2	52419 3520653	149095 6116527	292469	684842	1341932	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Ave	3385 257310	11015 433968	20208	49915	93992	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Lin2	++++ 768431	40234 1314227	70388	155217	295196	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Lin2	16910 1192472	53171 2046913	99179	234639	457521	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Lin2	15072 975731	44154 1684284	83569	192073	372956	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Lin2	12696 807512	36142 1373408	65909	162705	320714	3.00 300	10.0 600	20.0	50.0	100
Hexane	CBNZ d5	Lin2	22970 1507997	65683 2660164	126823	300535	584833	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	16081 1221173	51556 2142819	93705	238555	459789	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Lin2	24261 1521207	70515 2662511	126006	305114	585151	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Lin2	11336 478862	25415 836883	43519	100756	190958	1.20 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 520646	21432 898456	39902	95152	195512	++++ 900	30.0 1800	60.0	150	300
2,2-Dichloropropane	FB	Lin2	++++ 1544299	65077 2800048	123300	294803	578241	++++ 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,2-Dichloroethene	FB	Lin2	++++ 939372	44852 1629016	81023	186082	358798	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 149884	6476 257292	14071	29283	57539	++++ 60.0	2.00 120	4.00	10.0	20.0
Chloroform	FB	Lin2	22544 1441428	66803 2559250	126701	287646	558568	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Lin2	5452 353775	15957 606892	29967	70151	136125	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Lin2	25167 1625942	70450 2915722	136327	319905	619751	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isobutyl alcohol	TBAd 9	Ave	++++ 464538	19655 797389	34601	81794	171759	++++ 750	25.0 1500	50.0	125	250
Cyclohexane	FB	Ave	++++ 1768372	75800 3085291	150076	346648	682731	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Lin2	20486 1345911	60341 2429591	115142	270075	519026	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Lin2	23130 1534874	64646 2770299	125466	291241	575839	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Heptane	FB	Lin2	24339 1564293	68893 2809879	136975	317240	620872	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Lin2	48957 3059833	143617 5406439	266664	617869	1205492	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane	FB	Lin2	13568 771317	36826 1369661	67757	152470	298667	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Lin2	15943 1004079	44176 1795475	85599	202411	398878	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	++++ 689177	32456 1318199	63233	146091	308710	++++ 120	4.00 240	8.00	20.0	40.0
Methylcyclohexane	FB	Ave	++++ 1469814	64135 2637700	127166	294615	566143	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Lin2	11387 726473	32998 1267929	62211	144146	282400	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Ave	++++ 66365	2710 124343	4751	13170	26807	++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Lin2	5198 322012	14147 560191	27996	63004	125174	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Lin2	13489 941810	40883 1682075	77369	182261	367102	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Ave	++++ 230561	8865 413785	18316	44031	91174	++++ 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	13881 1000767	41746 1777016	78028	191961	382369	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	12378 890360	37612 1534697	72775	185465	350315	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Lin2	57841 3289519	154576 5781169	288157	667581	1292595	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	6107 450808	17027 785946	35449	83919	171799	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin2	11239 792467	32485 1406675	63660	151631	299495	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Lin2	6840 412096	18575 715849	36230	83642	163494	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	++++ 611298	24672 1055168	49878	120257	242072	++++ 120	4.00 240	8.00	20.0	40.0
Tetrachloroethene	CBNZ d5	Lin2	14683 923564	42233 1678936	79180	188432	355732	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	++++ 678584	31663 1201569	59401	136407	267764	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin2	8678 595991	24416 1057101	45815	108251	225356	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Lin2	6171 406414	18390 715551	32742	78997	160022	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	19712 1398323	55558 2489637	115089	279723	536701	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Lin2	35326 2161104	99841 3775597	184188	433041	814343	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Lin2	21725 1416520	61788 2548163	120700	279743	544755	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	11378 805587	33965 1430515	65696	156617	308366	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Lin2	49550 3135171	134426 5507784	264872	618543	1185237	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Lin2	22278 1546246	68094 2738154	130184	305618	580601	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	30488 2305200	93020 4061876	183901	445230	858564	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Ave	3987 332860	12335 600833	24735	58671	121948	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Lin2	59453 4042116	171899 7078644	337648	801329	1543379	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	++++ 335988	14140 588892	25370	65715	122676	++++ 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	++++ 406679	17758 703734	34696	81568	158796	++++ 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	1690 155573	7240 273511	11973	28239	56552	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Lin2	++++ 1303765	57172 2324466	109277	255969	481490	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	1778 132354	5511 233405	11415	24640	51291	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Lin1	15297 940516	43075 1657335	81612	182400	353869	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Lin2	48917 3366355	143305 5901996	284593	661527	1259000	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Lin2	16110 1067421	45716 1884402	90895	207397	395701	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Lin2	16415 1079591	46625 1883844	90078	212761	398465	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Lin2	45475 3162698	135698 5652203	264722	624303	1172445	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Lin2	++++ 3399166	147942 5926162	281005	653935	1256601	++++ 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Lin2	16363 1078682	47454 1956458	91530	214743	403141	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Lin2	++++ 4076849	173533 7093106	340122	799519	1501554	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Lin2	29837 1893333	83280 3304999	157830	370864	693778	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Lin2	++++ 1828887	82745 3193920	152717	358284	671836	++++ 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Lin2	54400 3904182	162089 6808833	324470	759779	1414460	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Lin1	23973 1536772	67922 2655161	130362	300259	569593	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	++++ 92858	3486 159310	6577	16166	31967	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Lin1	++++ 1231133	54861 2078639	106292	241026	438187	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Lin2	16205 1113647	46224 1919165	92086	217533	385417	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin2	20946 1397392	59518 2316318	113608	265555	505202	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Lin1	++++ 996876	44286 1623746	82842	192617	357412	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-421403/24	MS9_2375.D
Level 2	STD2 280-421403/25	MS9_2374.D
Level 3	STD5 280-421403/26	MS9_2373.D
Level 4	ICIS 280-421403/27	MS9_2372.D
Level 5	STD30 280-421403/28	MS9_2371.D
Level 6	STD60 280-421403/29	MS9_2370.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	++++ 0.0032	0.0045	0.0048	0.0042	0.0036	Lin1	0.4254	0.0033							0.9910		0.9900
Ethanol	++++ 0.1329	0.1947	0.1709	0.1461	0.1324	Lin2	7.9124	0.1330							0.9960		0.9900
Propene oxide	0.0167 0.0115	0.0161	0.0156	0.0144	0.0128	Ave		0.0145				13.8		15.0			
2-Propanol	++++ 0.8837	0.9246	0.8573	0.9667	0.9277	Ave		0.9120				4.7		15.0			
Acetonitrile	0.0133 0.0114	0.0135	0.0139	0.0130	0.0125	Ave		0.0129				6.9		15.0			
Di-isopropyl ether (DIPE)	0.2959 0.2078	0.2864	0.2606	0.2544	0.2293	Ave		0.2557				13.1		15.0			
Chloroprene	0.6917 0.5261	0.7017	0.6557	0.6478	0.5590	Ave		0.6303				11.4		15.0			
Tert-butyl ethyl ether	0.8091 0.5926	0.7724	0.7278	0.7223	0.6473	Ave		0.7119				11.2		15.0			
Ethyl acetate	0.1303 0.0809	0.1157	0.1026	0.0955	0.0878	Lin2	0.0917	0.0880							0.9950		0.9900
Propionitrile	0.0160 0.0120	0.0162	0.0151	0.0146	0.0131	Ave		0.0145				11.3		15.0			
Methacrylonitrile	0.0755 0.0531	0.0731	0.0650	0.0649	0.0576	Ave		0.0649				13.3		15.0			
Tert-amyl methyl ether	0.6401 0.4832	0.6120	0.5689	0.5676	0.5255	Ave		0.5662				10.0		15.0			
n-Butanol	0.4169 0.3842	0.3756	0.3755	0.4346	0.4014	Ave		0.3981				6.1		15.0			
Methyl methacrylate	0.0404 0.0322	0.0386	0.0381	0.0368	0.0351	Ave		0.0369				7.8		15.0			
2-Nitropropane	0.0432 0.0230	0.0326	0.0265	0.0267	0.0244	Lin2	0.0390	0.0234							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrahydrothiophene	0.0272 0.0335	0.0366	0.0379	0.0343	0.0351	Lin2	-0.013	0.0361							0.9910		0.9900
cis-1,4-Dichloro-2-butene	0.1048 0.0794	0.0966	0.0868	0.0898	0.0814	Lin2	0.0475	0.0825							0.9980		0.9900
1,2,3-Trimethylbenzene	4.0508 2.6606	3.7474	3.5949	3.4484	2.9133	Lin1	2.0673	2.7652							0.9930		0.9900
1,3,5-Trichlorobenzene	2.1277 1.3931	1.9948	1.8965	1.8203	1.4846	Lin1	1.1347	1.4363							0.9920		0.9900
Dibromofluoromethane (Surr)	++++ 0.2739	0.3775	0.3408	0.3371	0.2981	Ave		0.3255				12.4		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.2248	0.3132	0.2779	0.2769	0.2477	Ave		0.2681				12.5		15.0			
Toluene-d8 (Surr)	++++ 3.7748	5.1125	4.8450	4.7280	4.1363	Ave		4.5193				12.1		15.0			
4-Bromofluorobenzene (Surr)	++++ 0.8695	1.2333	1.1335	1.1048	0.9431	Ave		1.0568				14.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-421403/24	MS9_2375.D
Level 2	STD2 280-421403/25	MS9_2374.D
Level 3	STD5 280-421403/26	MS9_2373.D
Level 4	ICIS 280-421403/27	MS9_2372.D
Level 5	STD30 280-421403/28	MS9_2371.D
Level 6	STD60 280-421403/29	MS9_2370.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Lin1	++++ 1680965	69646	194111	345608	923556	++++ 6000	200	500	1000	3000
Ethanol	TBAd 9	Lin2	++++ 289136	11519	28167	45932	139958	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	128520 5975513	251438	631271	1187913	3242763	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Ave	++++ 320393	9116	23554	50662	163463	++++ 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	10272 591146	21149	56497	107333	316614	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	22816 1075593	44726	105767	209825	581898	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	53333 2723208	109563	266102	534243	1418406	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	62384 3067508	120597	295323	595738	1642665	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Lin2	20086 837752	36135	83276	157547	445700	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	12313 621932	25247	61408	120518	333547	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	58218 2750902	114112	263664	535476	1461352	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	49357 2501157	95556	230869	468080	1333533	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Ave	4986 348244	9258	25795	56940	176825	25.0 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	6233 333877	12055	30908	60620	178348	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Lin2	6668 238630	10165	21535	44011	124081	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Lin2	1063 89024	3023	8009	14155	45947	2.00 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
cis-1,4-Dichloro-2-butene	DCBd 4	Lin2	6160 332358	11949	27772	56828	168039	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Lin1	119033 5571738	231781	575384	1091198	3005234	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Lin1	62524 2917452	123381	303551	575994	1531431	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 1418136	58940	138285	278031	756396	++++ 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 1163694	48907	112773	228390	628556	++++ 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 5020365	211232	511496	976586	2707641	++++ 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 1820858	76278	181423	349608	972838	++++ 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-419367/16	R2077.D
Level 2	STD1 280-419367/15	R2076.D
Level 3	STD2 280-419367/14	R2075.D
Level 4	STD5 280-419367/13	R2074.D
Level 5	STD10 280-419367/12	R2073.D
Level 6	STD30 280-419367/11	R2072.D
Level 7	STD60 280-419367/10	R2071.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3007 0.4008	0.3398 0.4354	0.3722	0.4056	0.4166	Ave		0.3816				12.4		15.0			
Chloromethane	0.1595 0.1985	0.1961 0.2073	0.2004	0.2119	0.2125	Ave		0.1980			0.1000	9.2		15.0			
Vinyl chloride	0.2088 0.2334	0.2368 0.2439	0.2510	0.2515	0.2515	Ave		0.2396				6.4		30.0			
Bromomethane	0.1805 0.1595	0.1937 0.1439	0.1968	0.1915	0.1862	Ave		0.1789				11.1		15.0			
Chloroethane	0.1474 0.1327	0.1448 0.1300	0.1508	0.1479	0.1469	Ave		0.1429				5.7		15.0			
Dichlorofluoromethane	0.4215 0.4157	0.4317 0.4291	0.4487	0.4460	0.4448	Ave		0.4339				3.0		15.0			
Trichlorofluoromethane	0.4881 0.4570	0.4873 0.5011	0.4943	0.4875	0.4820	Ave		0.4853				2.9		15.0			
Ethyl ether	0.0715 0.0800	0.0742 0.0815	0.0779	0.0821	0.0810	Ave		0.0783				5.2		15.0			
Acrolein	0.0115 0.0138	0.0125 +++++	0.0130	0.0131	0.0136	Ave		0.0129				6.4		15.0			
Acetone	0.0409 0.0170	0.0231 0.0172	0.0201	0.0188	0.0186	Lin2	0.0283	0.0170							0.9980		0.9900
Freon 113	0.2888 0.3021	0.2873 0.3250	0.2951	0.3067	0.3029	Ave		0.3011				4.3		15.0			
1,1-Dichloroethene	0.3306 0.3662	0.3378 0.3810	0.3477	0.3697	0.3695	Ave		0.3575				5.3		30.0			
Iodomethane	0.4466 0.5328	0.4713 0.5505	0.4887	0.5334	0.5430	Ave		0.5095				7.9		15.0			
Methyl acetate	+++++ 0.0487	0.0497 0.0494	0.0477	0.0509	0.0509	Ave		0.0496				2.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.3824 0.4128	0.3522 0.3970	0.4099	0.4367	0.4404	Ave		0.4045				7.6		15.0			
Carbon disulfide	1.2304 1.4383	1.2878 1.4263	1.3680	1.4945	1.5002	Ave		1.3922				7.4		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	0.0031 0.0063	0.0046 0.0064	0.0055	0.0059	0.0062	Lin2	-0.010	0.0062							0.9970		0.9900
Methylene Chloride	0.4497 0.3007	0.3419 0.3089	0.3208	0.3250	0.3201	Ave		0.3382				15.0		15.0			
Acrylonitrile	0.0238 0.0293	0.0265 0.0301	0.0280	0.0305	0.0308	Ave		0.0285				8.9		15.0			
Methyl tert-butyl ether	0.2963 0.4128	0.3202 0.4209	0.3496	0.4015	0.4164	Ave		0.3739				13.7		15.0			
trans-1,2-Dichloroethene	0.3459 0.3864	0.3623 0.4020	0.3733	0.3972	0.3996	Ave		0.3810				5.6		15.0			
Hexane	1.9988 2.6759	2.3134 2.7447	2.5851	2.8538	2.8718	Ave		2.5776				12.3		15.0			
Vinyl acetate	0.1050 0.1800	0.1315 0.1848	0.1513	0.1680	0.1815	Lin2	-0.046	0.1745							0.9940		0.9900
1,1-Dichloroethane	0.5552 0.5821	0.5764 0.5943	0.5889	0.6162	0.6129	Ave		0.5894			0.1000	3.6		15.0			
Methyl ethyl ketone (MEK)	++++ 0.0263	0.0257 0.0279	0.0269	0.0256	0.0268	Ave		0.0265				3.2		15.0			
sec-Butyl Alcohol	++++ 0.9760	0.7637 1.0750	0.8186	0.8922	0.9418	Ave		0.9112				12.3		15.0			
cis-1,2-Dichloroethene	0.3183 0.3750	0.3410 0.3864	0.3542	0.3834	0.3854	Ave		0.3634				7.2		15.0			
2,2-Dichloropropane	0.3820 0.4933	0.4029 0.5308	0.4348	0.4589	0.4769	Ave		0.4542				11.4		15.0			
Chlorobromomethane	0.0949 0.1157	0.1041 0.1213	0.1118	0.1155	0.1190	Ave		0.1118				8.3		15.0			
Chloroform	0.4989 0.5378	0.5160 0.5561	0.5264	0.5558	0.5569	Ave		0.5354				4.3		30.0			
Tetrahydrofuran	++++ 0.0178	0.0128 0.0182	0.0142	0.0161	0.0170	Ave		0.0160				13.1		15.0			
Isobutyl alcohol	++++ 0.4263	0.3620 0.4594	0.4216	0.4234	0.4211	Ave		0.4189				7.5		15.0			
1,1,1-Trichloroethane	0.4420 0.5522	0.4659 0.5928	0.5012	0.5360	0.5447	Ave		0.5193				10.1		15.0			
Cyclohexane	0.4263 0.6436	0.5281 0.6308	0.6242	0.6787	0.6709	Lin2	-0.072	0.6536							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.3922 0.5283	0.4896 0.5353	0.5281	0.5544	0.5464	Ave		0.5106				11.0		15.0			
Carbon tetrachloride	0.3870 0.5039	0.4160 0.5485	0.4467	0.4800	0.4918	Ave		0.4677				11.8		15.0			
1,2-Dichloroethane	0.2222 0.2402	0.2292 0.2515	0.2347	0.2471	0.2480	Ave		0.2390				4.5		15.0			
Benzene	1.2716 1.4173	1.3931 1.4068	1.4325	1.5115	1.4850	Ave		1.4168				5.4		15.0			
n-Heptane	0.2970 0.4765	0.3954 0.4648	0.4572	0.5088	0.4988	Lin2	-0.059	0.4863							0.9970		0.9900
Trichloroethene	0.3261 0.3775	0.3343 0.4007	0.3448	0.3698	0.3717	Ave		0.3607				7.4		15.0			
2-Pentanone	++++ 0.0458	0.0321 0.0469	0.0354	0.0416	0.0435	Ave		0.0409				14.4		15.0			
1,2-Dichloropropane	0.2618 0.2805	0.2716 0.2757	0.2741	0.2938	0.2915	Ave		0.2784				4.0		30.0			
Methylcyclohexane	0.4043 0.5252	0.4639 0.5227	0.5146	0.5568	0.5449	Ave		0.5046				10.5		15.0			
1,4-Dioxane	++++ 0.0010	0.0006 0.0010	0.0008	0.0010	0.0010	Lin2	-0.009	0.0010							0.9990		0.9900
Dibromomethane	0.0887 0.1048	0.0953 0.1104	0.0993	0.1054	0.1064	Ave		0.1015				7.4		15.0			
Dichlorobromomethane	++++ 0.3264	0.2542 0.3487	0.2707	0.3097	0.3199	Ave		0.3049				11.7		15.0			
2-Chloroethyl vinyl ether	++++ 0.0713	++++ 0.0760	0.0412	0.0513	0.0601	Lin2	-0.067	0.0713							0.9910		0.9900
cis-1,3-Dichloropropene	0.9962 1.7538	1.1429 1.8674	1.3063	1.5848	1.7252	Lin1	-0.456	1.8197							0.9980		0.9900
4-Methyl-2-pentanone (MIBK)	0.0334 0.0635	0.0407 0.0646	0.0494	0.0588	0.0631	Lin1	-0.059	0.0643							0.9990		0.9900
Toluene	1.0992 1.4950	1.3952 1.4449	1.4973	1.5962	1.5589	Ave		1.4410				11.4		30.0			
Ethyl methacrylate	++++ 0.7490	0.4380 0.7830	0.5139	0.6346	0.7220	Lin2	-0.345	0.7464							0.9950		0.9900
trans-1,3-Dichloropropene	++++ 0.2772	0.1844 0.2922	0.2068	0.2512	0.2622	Lin2	-0.104	0.2778							0.9970		0.9900
1,1,2-Trichloroethane	0.1172 0.1497	0.1364 0.1557	0.1401	0.1502	0.1509	Ave		0.1429				9.2		15.0			
Methyl n-butyl ketone (MNBK)	0.0880 0.1926	0.1193 0.1952	0.1415	0.1741	0.1944	Lin1	-0.199	0.1946							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichloropropane	1.0911 1.2688	1.1460 1.3142	1.2381	1.3235	1.3288	Ave		1.2444				7.5		15.0			
Tetrachloroethene	1.2650 1.4405	1.3305 1.5836	1.4058	1.4579	1.4530	Ave		1.4195				7.2		15.0			
Chlorodibromomethane	++++ 0.8222	0.5701 0.8971	0.6110	0.7306	0.7788	Lin2	-0.298	0.8268							0.9940		0.9900
1,2-Dibromoethane	++++ 0.6176	0.4982 0.6592	0.5253	0.5884	0.6143	Ave		0.5838				10.4		15.0			
1-Chlorohexane	1.1886 2.5912	1.6683 2.7093	2.1117	2.5116	2.5323	Lin2	-0.439	2.5128							0.9910		0.9900
Chlorobenzene	4.1917 4.2073	4.2947 4.2963	4.2616	4.4294	4.3525	Ave		4.2905			0.3000	1.9		15.0			
1,1,1,2-Tetrachloroethane	0.8992 1.2477	0.9786 1.2754	1.0494	1.2012	1.2562	Ave		1.1297				13.5		15.0			
Ethylbenzene	2.1143 2.7102	2.4327 2.6551	2.6049	2.7842	2.7912	Ave		2.5847				9.3		30.0			
m-Xylene & p-Xylene	2.3209 3.2692	2.8039 3.3565	3.0686	3.3102	3.3325	Ave		3.0660				12.5		15.0			
o-Xylene	1.7608 2.8365	2.3557 2.6440	2.7391	3.0520	3.0838	Lin2	-0.353	2.9002							0.9950		0.9900
Styrene	++++ 4.3303	3.0374 4.0023	3.6889	4.3873	4.5095	Ave		3.9926				13.9		15.0			
Bromoform	++++ 0.3534	0.2158 ++++	0.2472	0.2911	0.3165	Lin2	-0.129	0.3321			0.1000				0.9950		0.9900
Isopropylbenzene	3.1743 5.6591	4.5272 5.2801	5.2393	5.7474	5.7149	Lin2	-0.752	5.6055							0.9980		0.9900
Cyclohexanone	++++ 0.0119	0.0067 0.0125	0.0087	0.0100	0.0117	Lin2	-0.228	0.0120							0.9970		0.9900
1,1,2,2-Tetrachloroethane	0.4571 0.4654	0.4365 0.4831	0.4575	0.4655	0.4741	Ave		0.4627			0.3000	3.2		15.0			
trans-1,4-Dichloro-2-butene	++++ 0.1036	0.0766 0.1095	0.0801	0.0913	0.0951	Ave		0.0927				13.9		15.0			
1,2,3-Trichloropropane	++++ 0.1286	0.1142 0.1328	0.1174	0.1293	0.1268	Ave		0.1248				5.9		15.0			
Bromobenzene	0.7449 1.0292	0.8763 1.0580	0.9487	1.0076	0.9967	Ave		0.9516				11.4		15.0			
N-Propylbenzene	++++ 1.6861	1.3842 1.6843	1.5750	1.6900	1.6290	Ave		1.6081				7.4		15.0			
1,3,5-Trimethylbenzene	2.4905 4.5274	3.9286 4.1502	4.4966	4.7929	4.6713	Lin2	-0.629	4.6167							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	0.9021 1.2307	1.1744 1.1451	1.2557	1.3208	1.2758	Ave		1.1864				11.7		15.0			
4-Chlorotoluene	0.8843 1.2883	1.1311 1.3386	1.2030	1.2805	1.2603	Ave		1.1980				12.8		15.0			
tert-Butylbenzene	2.5005 4.7088	3.7130 4.6889	4.2931	4.6600	4.6251	Lin2	-0.675	4.6699							0.9990		0.9900
1,2,4-Trimethylbenzene	2.4967 4.6255	4.0895 4.4540	4.5236	4.7607	4.6323	Lin2	-0.652	4.7086							0.9990		0.9900
sec-Butylbenzene	0.7215 1.3327	1.0700 1.4014	1.2018	1.3151	1.2710	Lin2	-0.189	1.3277							0.9980		0.9900
4-Isopropyltoluene	2.7731 5.2702	4.3870 4.9922	5.0628	5.4165	5.2180	Lin2	-0.758	5.2926							0.9990		0.9900
1,3-Dichlorobenzene	1.9539 2.2045	2.1382 2.2964	2.2164	2.2469	2.1898	Ave		2.1780				5.1		15.0			
1,4-Dichlorobenzene	2.1344 2.1250	2.1229 2.2071	2.1460	2.1796	2.1214	Ave		2.1481				1.5		15.0			
n-Butylbenzene	3.0909 5.0763	4.2193 4.8859	4.9841	5.2586	5.0115	Lin2	-0.614	5.1015							0.9980		0.9900
1,2-Dichlorobenzene	1.4507 1.7257	1.6299 1.8071	1.6848	1.7413	1.7268	Ave		1.6809				6.8		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0535	0.0274 ++++	0.0396	0.0479	0.0498	Lin2	-0.026	0.0533							1.0000		0.9900
1,2,4-Trichlorobenzene	0.6910 1.0987	0.7775 1.1606	0.8849	1.0070	1.0483	Lin2	-0.123	1.0434							0.9900		0.9900
Hexachlorobutadiene	0.7721 0.8719	0.8107 ++++	0.8436	0.8443	0.8071	Ave		0.8249				4.3		15.0			
Naphthalene	++++ 1.4380	0.7084 1.4787	0.8700	1.1822	1.3580	Lin2	-0.795	1.4176							0.9940		0.9900
1,2,3-Trichlorobenzene	0.6170 0.8298	0.6525 0.8599	0.7739	0.8190	0.8265	Ave		0.7684				12.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-419367/16	R2077.D
Level 2	STD1 280-419367/15	R2076.D
Level 3	STD2 280-419367/14	R2075.D
Level 4	STD5 280-419367/13	R2074.D
Level 5	STD10 280-419367/12	R2073.D
Level 6	STD30 280-419367/11	R2072.D
Level 7	STD60 280-419367/10	R2071.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	10741 1543143	42495 3159633	93553	258088	526276	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	5699 764337	24527 1504009	50363	134804	268496	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	7460 898508	29617 1769769	63084	159984	317711	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	6447 614002	24226 1044049	49480	121835	235177	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	5265 510889	18108 943230	37916	94111	185584	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	15056 1600393	53982 3113969	112779	283793	561950	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	17436 1759522	60934 3636029	124242	310161	608943	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	2555 307963	9278 591434	19587	52243	102359	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	4117 531090	15620 +++++	32684	83634	172069	3.00 300	10.00 +++++	20.0	50.0	100.0
Acetone	FB	Lin2	5843 262099	11563 500608	20174	47825	93880	1.20 120	4.00 240	8.00	20.0	40.0
Freon 113	FB	Ave	10316 1162961	35921 2358478	74181	195163	382666	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	11811 1409879	42244 2764653	87411	235211	466812	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	15952 2051002	58939 3994982	122840	339357	685978	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	+++++ 375275	12434 717368	23978	64814	128715	+++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	13660 1589079	44040 2880977	103039	277861	556403	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	43952 5537238	161033 10350347	343879	950860	1895261	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Lin2	1107 243427	5795 463903	13895	37483	78525	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	16065 1157493	42756 2241217	80648	206805	404384	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	8513 1129414	33186 2185438	70504	194231	389075	3.00 300	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	10584 1589097	40036 3054039	87878	255427	526016	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	12357 1487610	45299 2916861	93839	252733	504801	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	14617 2241377	60860 4285311	137609	388809	761139	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Lin2	7502 1385719	32889 2681817	76062	213717	458608	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	19832 2240992	72075 4312881	148037	392081	774359	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	++++ 405436	12866 808600	27064	65042	135369	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 477640	10819 910429	24191	69898	154092	++++ 900	30.0 1800	60.0	150	300
cis-1,2-Dichloroethene	FB	Ave	11371 1443606	42644 2804013	89028	243910	486891	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2,2-Dichloropropane	FB	Ave	13644 1899201	50379 3851504	109292	291971	602451	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	3389 445562	13020 880166	28094	73481	150341	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	17820 2070320	64521 4035678	132327	353649	703547	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 136823	3211 264007	7149	20487	43008	++++ 60.0	2.00 120	4.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Ave	++++ 173849	4273 324200	10381	27645	57417	++++ 750	25.0 1500	50.0	125	250
1,1,1-Trichloroethane	FB	Ave	15790 2125878	58262 4301782	125975	341047	688168	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Lin2	15226 2477624	66035 4577465	156896	431844	847522	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	14008 2033877	61229 3884745	132754	352753	690247	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	13825 1939827	52021 3980374	112277	305383	621287	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	7937 924586	28658 1825022	58990	157205	313277	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	45424 5456212	174207 10208752	360069	961659	1876056	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Lin2	10609 1834421	49445 3372923	114912	323713	630208	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	11650 1453477	41809 2907700	86681	235287	469604	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	++++ 704815	16059 1360283	35641	105882	219698	++++ 120	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	9350 1080024	33968 2000983	68888	186923	368280	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	14441 2022075	58014 3792750	129362	354266	688345	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	++++ 76288	1477 151044	3951	12714	25088	++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	3167 403539	11920 800841	24968	67081	134466	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	++++ 1256747	31790 2530533	68041	197025	404134	++++ 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Lin2	++++ 274589	++++ 551800	10350	32615	75884	++++ 30.0	++++ 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Lin1	7285 1469018	30068 2915556	69534	215920	457244	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Lin1	4768 978467	20349 1875727	49653	149665	318988	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	39264 5755509	174463 10484980	376378	1015571	1969485	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin2	++++ 627410	11524 1222406	27354	86460	191355	++++ 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin2	++++ 1067286	23053 2120136	51984	159850	331215	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	4185 576448	17055 1129994	35227	95580	190669	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Lin1	2574 645356	12556 1218827	30122	94900	206058	1.20 120	4.00 240	8.00	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	7979 1062803	30150 2051864	65903	180324	352194	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	9251 1206569	35002 2472492	74831	198634	385095	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin2	++++ 688702	14998 1400614	32524	99540	206419	++++ 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	++++ 517289	13107 1029175	27962	80165	162814	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Lin2	8692 2170428	43891 4229898	112406	342188	671150	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	30654 3524159	112984 6707717	226847	603474	1153583	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	6576 1045070	25744 1991320	55858	163655	332948	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	15462 2270119	64000 4145318	138662	379335	739774	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	16973 2738377	73766 5240488	163345	450993	883235	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Lin2	12877 2375951	61974 4128084	145805	415811	817329	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	++++ 3627156	79909 6248654	196362	597748	1195199	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin2	++++ 296051	5678 ++++	13160	39663	83885	++++ 30.0	1.00 ++++	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Lin2	32775 6810215	166854 12097650	395748	1133324	2241336	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin2	++++ 398438	7034 781809	18490	54480	124202	++++ 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	4720 560023	16089 1106812	34554	91793	185952	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	++++ 124623	2824 250909	6054	17994	37279	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	++++ 154771	4208 304167	8870	25489	49739	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	7691 1238527	32296 2424097	71657	198695	390888	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	++++ 2029099	51016 3859092	118968	333240	638883	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Lin2	25714 5448376	144794 9508755	339649	945101	1832018	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	9314 1481074	43283 2623548	94846	260454	500338	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	9130 1550363	41686 3067070	90870	252503	494268	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Lin2	25818 5666667	136846 10743186	324279	918893	1813909	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Lin2	25778 5566442	150724 10204836	341691	938750	1816736	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Lin2	7449 1603798	39435 3210954	90777	259328	498479	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Lin2	28632 6342182	161686 11437957	382416	1068066	2046428	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	20174 2652939	78807 5261405	167415	443071	858813	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	22038 2557254	78242 5056938	162099	429796	831987	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Lin2	31914 6108878	155506 11194405	376470	1036932	1965437	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14979 2076739	60071 4140343	127264	343359	677249	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin2	++++ 64415	1009 ++++	2989	9451	19525	++++ 30.0	1.00 ++++	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Lin2	7135 1322220	28654 2659229	66844	198570	411140	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	7972 1049267	29879 ++++	63722	166480	316535	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin2	++++ 1730554	26107 3387881	65717	233124	532599	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	6371 998585	24048 1970088	58458	161499	324139	0.300 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-419367/18	R2085.D
Level 2	STD 280-419367/19	R2086.D
Level 3	STD 280-419367/20	R2087.D
Level 4	ICIS 280-419367/21	R2088.D
Level 5	STD 280-419367/22	R2089.D
Level 6	STD 280-419367/23	R2090.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorotrifluoroethene	0.0548 0.1159	0.0551	0.1092	0.1088	0.1082	Lin1	-0.076	0.1153							0.9980		0.9900
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.1607 0.2014	0.1562	0.2304	0.2168	0.1995	Lin1	-0.033	0.2042							0.9970		0.9900
2-Chloro-1,1,1-Trifluoroethane	0.3094 0.2502	0.2828	0.3425	0.3218	0.2754	Ave		0.2970				11.4	15.0				
Ethylene oxide	0.0020 0.0017	0.0020	0.0022	0.0021	0.0018	Ave		0.0020				8.6	15.0				
1,2-Dichloro-1,1,2-trifluoroethane	0.2803 0.2401	0.2572	0.3026	0.2828	0.2546	Ave		0.2696				8.5	15.0				
2,2-Dichloro-1,1,1-trifluoroethane	0.3652 0.3109	0.3298	0.3913	0.3690	0.3317	Ave		0.3496				8.6	15.0				
2-Propanol	0.9724 1.0044	0.9419	1.0357	1.0464	1.0111	Ave		1.0020				3.9	15.0				
Acetonitrile	0.0083 0.0069	0.0077	0.0081	0.0079	0.0072	Ave		0.0077				7.2	15.0				
Di-isopropyl ether (DIPE)	0.1334 0.2066	0.1429	0.1847	0.1950	0.2076	Lin2	-0.080	0.2030							0.9960		0.9900
Chloroprene	0.3157 0.4419	0.3721	0.4863	0.4766	0.4693	Lin2	-0.165	0.4777							0.9950		0.9900
Tert-butyl ethyl ether	0.3301 0.4734	0.3644	0.4504	0.4590	0.4725	Ave		0.4250				14.5	15.0				
Ethyl acetate	0.0418 0.0397	0.0379	0.0460	0.0408	0.0402	Ave		0.0411				6.7	15.0				
Propionitrile	0.0087 0.0093	0.0089	0.0103	0.0099	0.0096	Ave		0.0094				6.2	15.0				
Methacrylonitrile	0.0312 0.0328	0.0332	0.0405	0.0395	0.0363	Ave		0.0356				10.7	15.0				
Tert-amyl methyl ether	0.2393 0.3794	0.2700	0.3525	0.3638	0.3783	Lin2	-0.152	0.3775							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
n-Butanol	0.4409 0.5326	0.4868	0.5877	0.5473	0.5386	Ave		0.5223				9.8		15.0			
Methyl methacrylate	++++ 0.0277	0.0141	0.0197	0.0216	0.0263	Lin2	-0.052	0.0263							0.9940		0.9900
2-Nitropropane	0.0045 0.0091	0.0052	0.0069	0.0071	0.0081	Lin1	-0.013	0.0088							0.9950		0.9900
cis-1,4-Dichloro-2-butene	0.0699 ++++	0.0748	0.0939	0.0933	0.1091	Lin2	-0.072	0.1014							0.9920		0.9900
1,2,3-Trimethylbenzene	3.5276 3.8981	4.0163	4.8470	4.5892	4.5190	Ave		4.2329				11.8		15.0			
1,3,5-Trichlorobenzene	1.2713 1.6083	1.4040	1.6205	1.6260	1.7463	Ave		1.5461				11.3		15.0			
Dibromofluoromethane (Surr)	0.2668 0.2597	0.2321	0.2953	0.2833	0.2688	Lin1	0.0081	0.2652							0.9980		0.9900
1,2-Dichloroethane-d4 (Surr)	0.2054 0.1815	0.1759	0.2116	0.2012	0.1883	Lin1	0.0287	0.1851							0.9980		0.9900
Toluene-d8 (Surr)	4.3371 ++++	4.0960	5.6966	5.8944	5.7326	Lin1	-1.958	5.8693							0.9980		0.9900
4-Bromofluorobenzene (Surr)	1.0256 1.2918	0.9626	1.4151	1.4248	1.4159	Lin1	-0.315	1.3532							0.9960		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-419367/18	R2085.D
Level 2	STD 280-419367/19	R2086.D
Level 3	STD 280-419367/20	R2087.D
Level 4	ICIS 280-419367/21	R2088.D
Level 5	STD 280-419367/22	R2089.D
Level 6	STD 280-419367/23	R2090.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Chlorotrifluoroethene	FB	Lin1	6254 831234	12829	60177	119734	377509	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	FB	Lin1	18332 1444152	36369	126916	238564	696007	1.00 60.0	2.00	5.00	10.0	30.0
2-Chloro-1,1,1-Trifluoroethane	FB	Ave	35309 1794037	65839	188651	354119	960762	1.00 60.0	2.00	5.00	10.0	30.0
Ethylene oxide	FB	Ave	23240 1240585	47600	120287	225927	631491	100 6000	200	500	1000	3000
1,2-Dichloro-1,1,2-trifluoroethane	FB	Ave	31980 1721624	59888	166705	311175	888155	1.00 60.0	2.00	5.00	10.0	30.0
2,2-Dichloro-1,1,1-trifluoroethane	FB	Ave	41675 2229671	76790	215526	406061	1157224	1.00 60.0	2.00	5.00	10.0	30.0
2-Propanol	TBAd 9	Ave	3962 260182	7764	19591	38440	124014	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	9518 495160	17974	44642	86458	249463	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Lin2	15226 1481821	33263	101735	214553	724291	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Lin2	36020 3168965	86652	267863	524485	1637472	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	37667 3394867	84846	248110	505125	1648387	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	9537 569867	17642	50649	89880	280649	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	9924 665629	20821	56535	108980	333435	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	35547 2353826	77242	223034	434718	1266522	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Lin2	27309 2721221	62874	194181	400390	1319709	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Ave	4491 344929	10032	27792	50265	165155	25.0 1500	50.0	125	250	750



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Methyl methacrylate	FB	Lin2	+++++ 397295	6564	21662	47646	183319	+++++ 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Lin1	1027 130198	2434	7614	15710	56728	2.00 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Lin2	4035 +++++	8768	26194	54995	209934	2.00 +++++	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	101774 8003978	235268	676379	1352770	4348339	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	36677 3302266	82242	226138	479310	1680402	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Lin1	30441 1862543	54043	162669	311758	937929	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin1	23438 1301535	40949	116556	221441	656841	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Lin1	103966 +++++	204285	680701	1393684	4296467	1.00 +++++	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Lin1	29588 2652392	56390	197477	419988	1362411	1.00 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-413853/24 Calibration Date: 05/05/2018 15:46  
Instrument ID: VMS\_MS1 Calib Start Date: 03/27/2018 13:20  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 03/27/2018 15:02  
Lab File ID: MS1\_1636.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Lin					1000	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-413853/24 Calibration Date: 05/05/2018 15:46  
 Instrument ID: VMS\_MS1 Calib Start Date: 05/05/2018 13:23  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 05/05/2018 15:05  
 Lab File ID: MS1\_1636.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.1972	0.2038		620	600	3.3	55.0
Propene oxide	Ave	0.0179	0.0205		1140	1000	14.4	
2-Propanol	Lin2		1.211		113	100	13.2	55.0
Acetonitrile	Ave	0.0109	0.0113		103	100	3.0	55.0
Di-isopropyl ether (DIPE)	Ave	0.1703	0.1866		11.0	10.0	9.6	35.0
Chloroprene	Ave	0.4125	0.4304		10.4	10.0	4.3	35.0
Tert-butyl ethyl ether	Ave	0.4586	0.5067		11.0	10.0	10.5	35.0
Ethyl acetate	Ave	0.0629	0.0702		22.3	20.0	11.7	55.0
Propionitrile	Ave	0.0102	0.0114		112	100	12.3	55.0
Methacrylonitrile	Ave	0.0536	0.0589		110	100	9.8	55.0
Tert-amyl methyl ether	Ave	0.3232	0.3506		10.8	10.0	8.5	35.0
n-Butanol	Lin1		0.4761		246	250	-1.8	55.0
Methyl methacrylate	Ave	0.0218	0.0254		23.2	20.0	16.1	35.0
2-Nitropropane	Ave	0.0130	0.0150		23.0	20.0	14.9	55.0
Tetrahydrothiophene	Ave	0.1009	0.1102		21.8	20.0	9.2	55.0
cis-1,4-Dichloro-2-butene	Ave	0.1149	0.1150		20.0	20.0	0.1	55.0
1,2,3-Trimethylbenzene	Ave	3.076	3.216		10.5	10.0	4.6	35.0
1,3,5-Trichlorobenzene	Ave	1.328	1.315		9.91	10.0	-0.9	50.0
Dibromofluoromethane (Surr)	Ave	0.2136	0.2185		10.2	10.0	2.3	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1846	0.1925		10.4	10.0	4.3	35.0
Toluene-d8 (Surr)	Ave	4.351	4.492		10.3	10.0	3.2	35.0
4-Bromofluorobenzene (Surr)	Ave	1.026	1.031		10.1	10.0	0.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-418017/19 Calibration Date: 06/11/2018 15:14

Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33

Lab File ID: MS1\_3170.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.3080		9.36	10.0	-6.4	55.0
Chloromethane	Ave	0.3149	0.2815	0.1000	8.94	10.0	-10.6	35.0
Vinyl chloride	Ave	0.3154	0.2895		9.18	10.0	-8.2	35.0
Bromomethane	Ave	0.2757	0.2690		9.76	10.0	-2.4	35.0
Chloroethane	Ave	0.2461	0.2354		9.56	10.0	-4.4	35.0
Dichlorofluoromethane	Ave	0.5782	0.5433		9.40	10.0	-6.0	55.0
Trichlorofluoromethane	Ave	0.4928	0.4521		9.17	10.0	-8.3	50.0
Ethyl ether	Ave	0.1221	0.1302		10.7	10.0	6.6	35.0
Acrolein	Ave	0.0136	0.0095		69.4	100	-30.6	55.0
Acetone	Lin2		0.0232		43.1	40.0	7.9	55.0
Freon 113	Ave	0.2132	0.2191		10.3	10.0	2.8	55.0
1,1-Dichloroethene	Ave	0.2397	0.2565		10.7	10.0	7.0	35.0
Iodomethane	Ave	0.4095	0.4437		10.8	10.0	8.4	35.0
Methyl acetate	Ave	0.0561	0.0530		47.2	50.0	-5.6	55.0
Allyl chloride	Ave	0.3963	0.4059		10.2	10.0	2.4	35.0
Carbon disulfide	Ave	1.070	1.084		10.1	10.0	1.3	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.218	1.229		101	100	0.9	55.0
Methylene Chloride	Ave	0.2601	0.2467		9.48	10.0	-5.2	35.0
Acrylonitrile	Ave	0.0286	0.0293		102	100	2.5	55.0
Methyl tert-butyl ether	Lin1		0.3658		9.71	10.0	-2.9	35.0
trans-1,2-Dichloroethene	Ave	0.2806	0.2936		10.5	10.0	4.6	35.0
Hexane	Lin1		1.990		9.72	10.0	-2.8	35.0
Vinyl acetate	Lin1		0.1957		19.7	20.0	-1.4	55.0
1,1-Dichloroethane	Ave	0.4893	0.4850	0.1000	9.91	10.0	-0.9	35.0
Methyl ethyl ketone (MEK)	Lin1		0.0389		39.9	40.0	-0.3	55.0
sec-Butyl Alcohol	Ave	0.8857	0.8911		302	300	0.6	
cis-1,2-Dichloroethene	Ave	0.2816	0.2949		10.5	10.0	4.7	35.0
2,2-Dichloropropane	Ave	0.3641	0.3522		9.67	10.0	-3.3	35.0
Chlorobromomethane	Ave	0.0969	0.1004		10.4	10.0	3.6	35.0
Chloroform	Ave	0.4469	0.4442		9.94	10.0	-0.6	35.0
Tetrahydrofuran	Lin2		0.0200		19.5	20.0	-2.5	55.0
Isobutyl alcohol	Ave	0.4444	0.4103		231	250	-7.7	55.0
1,1,1-Trichloroethane	Ave	0.4066	0.4167		10.2	10.0	2.5	35.0
Cyclohexane	Lin2		0.5021		9.98	10.0	-0.2	35.0
1,1-Dichloropropene	Lin2		0.4024		9.92	10.0	-0.8	35.0
Carbon tetrachloride	Ave	0.3766	0.3695		9.81	10.0	-1.9	35.0
1,2-Dichloroethane	Ave	0.2312	0.2237		9.67	10.0	-3.3	35.0
Benzene	Ave	1.055	1.059		10.0	10.0	0.4	35.0
n-Heptane	Lin2		0.4205		9.81	10.0	-1.9	50.0
Trichloroethene	Ave	0.2677	0.2744		10.2	10.0	2.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-418017/19 Calibration Date: 06/11/2018 15:14

Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33

Lab File ID: MS1\_3170.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Lin2		0.0500		40.0	40.0	0.0	55.0
1,2-Dichloropropane	Ave	0.2396	0.2411		10.1	10.0	0.6	35.0
Methylcyclohexane	Ave	0.3898	0.3867		9.92	10.0	-0.8	35.0
1,4-Dioxane	Lin2		0.0009		191	200	-4.5	55.0
Dibromomethane	Ave	0.0915	0.0921		10.1	10.0	0.6	35.0
Dichlorobromomethane	Ave	0.2615	0.2647		10.1	10.0	1.2	35.0
2-Chloroethyl vinyl ether	Lin1		0.0560		8.68	10.0	-13.2	55.0
cis-1,3-Dichloropropene	Lin1		1.395		9.47	10.0	-5.3	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0706		38.3	40.0	-4.2	55.0
Toluene	Ave	1.077	1.098		10.2	10.0	2.0	35.0
Ethyl methacrylate	Lin1		0.5767		8.87	10.0	-11.3	35.0
trans-1,3-Dichloropropene	Lin1		0.2255		9.11	10.0	-8.9	35.0
1,1,2-Trichloroethane	Ave	0.1212	0.1234		10.2	10.0	1.8	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.2103		38.4	40.0	-3.9	55.0
1,3-Dichloropropane	Ave	1.047	1.056		10.1	10.0	0.8	35.0
Tetrachloroethene	Ave	1.025	0.9741		9.50	10.0	-5.0	35.0
Chlorodibromomethane	Lin2		0.6443		9.57	10.0	-4.3	35.0
1,2-Dibromoethane	Lin2		0.4961		9.77	10.0	-2.3	35.0
1-Chlorohexane	Lin1		1.656		9.25	10.0	-7.5	35.0
Chlorobenzene	Ave	3.186	3.056	0.3000	9.59	10.0	-4.1	35.0
1,1,1,2-Tetrachloroethane	Ave	0.9922	0.999		10.1	10.0	0.7	35.0
Ethylbenzene	Ave	1.822	1.792		9.84	10.0	-1.6	35.0
m-Xylene & p-Xylene	Lin2		2.134		9.39	10.0	-6.1	35.0
o-Xylene	Lin2		2.059		9.56	10.0	-4.4	35.0
Styrene	Lin1		2.996		9.07	10.0	-9.3	35.0
Bromoform	Lin2		0.2902	0.1000	9.22	10.0	-7.8	35.0
Isopropylbenzene	Lin1		3.889		10.2	10.0	2.1	35.0
Cyclohexanone	Lin1		0.0104		364	400	-8.9	35.0
1,1,2,2-Tetrachloroethane	Ave	0.3717	0.3808	0.3000	10.2	10.0	2.5	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0828	0.0866		10.5	10.0	4.6	55.0
1,2,3-Trichloropropane	Ave	0.1072	0.1097		10.2	10.0	2.3	35.0
Bromobenzene	Ave	0.7673	0.8035		10.5	10.0	4.7	35.0
N-Propylbenzene	Lin2		1.124		9.62	10.0	-3.8	35.0
1,3,5-Trimethylbenzene	Lin2		3.207		9.79	10.0	-2.1	35.0
2-Chlorotoluene	Lin2		0.9501		9.59	10.0	-4.1	35.0
4-Chlorotoluene	Lin2		0.9190		9.63	10.0	-3.7	35.0
tert-Butylbenzene	Lin2		3.194		9.82	10.0	-1.8	35.0
1,2,4-Trimethylbenzene	Lin2		3.174		9.48	10.0	-5.2	35.0
sec-Butylbenzene	Lin2		0.9038		9.63	10.0	-3.7	35.0
4-Isopropyltoluene	Lin2		3.547		9.61	10.0	-3.9	35.0
1,3-Dichlorobenzene	Ave	1.653	1.611		9.75	10.0	-2.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-418017/19 Calibration Date: 06/11/2018 15:14  
 Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33  
 Lab File ID: MS1\_3170.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.661	1.572		9.46	10.0	-5.4	35.0
n-Butylbenzene	Lin2		3.321		9.46	10.0	-5.4	35.0
1,2-Dichlorobenzene	Ave	1.309	1.319		10.1	10.0	0.8	35.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0474		9.31	10.0	-6.9	55.0
1,2,4-Trichlorobenzene	Lin1		0.8789		9.19	10.0	-8.1	35.0
Hexachlorobutadiene	Ave	0.6973	0.6503		9.33	10.0	-6.7	35.0
Naphthalene	Lin1		1.063		9.58	10.0	-4.2	35.0
1,2,3-Trichlorobenzene	Lin1		0.7151		9.66	10.0	-3.4	35.0
Dibromofluoromethane (Surr)	Ave	0.2333	0.2366		10.1	10.0	1.4	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1961	0.1899		9.68	10.0	-3.2	35.0
Toluene-d8 (Surr)	Ave	4.260	4.303		10.1	10.0	1.0	35.0
4-Bromofluorobenzene (Surr)	Ave	0.9650	0.997		10.3	10.0	3.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420184/2 Calibration Date: 06/27/2018 07:35

Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33

Lab File ID: MS1\_3652.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.3276		9.95	10.0	-0.5	50.0
Chloromethane	Ave	0.3149	0.3240	0.1000	10.3	10.0	2.9	35.0
Vinyl chloride	Ave	0.3154	0.3050		9.67	10.0	-3.3	20.0
Bromomethane	Ave	0.2757	0.2309		8.38	10.0	-16.2	35.0
Chloroethane	Ave	0.2461	0.2305		9.36	10.0	-6.4	35.0
Dichlorofluoromethane	Ave	0.5782	0.5623		9.73	10.0	-2.7	50.0
Trichlorofluoromethane	Ave	0.4928	0.4642		9.42	10.0	-5.8	50.0
Ethyl ether	Ave	0.1221	0.1206		9.87	10.0	-1.3	35.0
Acrolein	Ave	0.0136	0.0154		113	100	12.9	50.0
Acetone	Lin2		0.0238		44.3	40.0	10.7	50.0
Freon 113	Ave	0.2132	0.2116		9.93	10.0	-0.7	50.0
1,1-Dichloroethene	Ave	0.2397	0.2545		10.6	10.0	6.2	20.0
Iodomethane	Ave	0.4095	0.4356		10.6	10.0	6.4	35.0
Methyl acetate	Ave	0.0561	0.0631		22.5	20.0	12.4	50.0
Allyl chloride	Ave	0.3963	0.5187		13.1	10.0	30.9	35.0
Carbon disulfide	Ave	1.070	1.139		10.6	10.0	6.4	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.218	1.197		98.3	100	-1.7	50.0
Methylene Chloride	Ave	0.2601	0.2643		10.2	10.0	1.6	35.0
Acrylonitrile	Ave	0.0286	0.0319		111	100	11.4	50.0
Methyl tert-butyl ether	Lin1		0.3737		9.91	10.0	-0.9	35.0
trans-1,2-Dichloroethene	Ave	0.2806	0.3034		10.8	10.0	8.1	35.0
Hexane	Lin1		1.911		9.34	10.0	-6.6	35.0
Vinyl acetate	Lin1		0.2466		24.7	20.0	23.6	50.0
1,1-Dichloroethane	Ave	0.4893	0.5354	0.1000	10.9	10.0	9.4	35.0
Methyl ethyl ketone (MEK)	Lin1		0.0424		43.4	40.0	8.5	50.0
sec-Butyl Alcohol	Ave	0.8857	0.9164		310	300	3.5	50.0
cis-1,2-Dichloroethene	Ave	0.2816	0.3049		10.8	10.0	8.3	35.0
2,2-Dichloropropane	Ave	0.3641	0.4317		11.9	10.0	18.6	35.0
Chlorobromomethane	Ave	0.0969	0.1002		10.3	10.0	3.4	35.0
Chloroform	Ave	0.4469	0.4939		11.1	10.0	10.5	20.0
Tetrahydrofuran	Lin2		0.0229		22.2	20.0	11.1	50.0
Isobutyl alcohol	Ave	0.4444	0.4679		263	250	5.3	50.0
1,1,1-Trichloroethane	Ave	0.4066	0.4672		11.5	10.0	14.9	35.0
Cyclohexane	Lin2		0.5286		10.5	10.0	5.0	35.0
1,1-Dichloropropene	Lin2		0.4191		10.3	10.0	3.2	35.0
Carbon tetrachloride	Ave	0.3766	0.4045		10.7	10.0	7.4	35.0
1,2-Dichloroethane	Ave	0.2312	0.2583		11.2	10.0	11.7	35.0
Benzene	Ave	1.055	1.153		10.9	10.0	9.3	35.0
n-Heptane	Lin2		0.5034		11.7	10.0	17.1	50.0
Trichloroethene	Ave	0.2677	0.2934		11.0	10.0	9.6	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420184/2 Calibration Date: 06/27/2018 07:35

Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33

Lab File ID: MS1\_3652.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Lin2		0.0559		44.6	40.0	11.5	50.0
1,2-Dichloropropane	Ave	0.2396	0.2581		10.8	10.0	7.7	20.0
Methylcyclohexane	Ave	0.3898	0.4379		11.2	10.0	12.3	35.0
1,4-Dioxane	Lin2		0.0009		189	200	-5.6	50.0
Dibromomethane	Ave	0.0915	0.0969		10.6	10.0	5.9	35.0
Dichlorobromomethane	Ave	0.2615	0.2991		11.4	10.0	14.4	35.0
2-Chloroethyl vinyl ether	Lin1		0.0541		8.41	10.0	-15.9	50.0
cis-1,3-Dichloropropene	Lin1		1.376		9.34	10.0	-6.6	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0758		41.1	40.0	2.7	50.0
Toluene	Ave	1.077	1.192		11.1	10.0	10.7	20.0
Ethyl methacrylate	Lin1		0.5653		8.70	10.0	-13.0	35.0
trans-1,3-Dichloropropene	Lin1		0.2497		10.1	10.0	0.6	35.0
1,1,2-Trichloroethane	Ave	0.1212	0.1240		10.2	10.0	2.3	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.2082		38.1	40.0	-4.8	50.0
1,3-Dichloropropane	Ave	1.047	1.042		9.95	10.0	-0.5	35.0
Tetrachloroethene	Ave	1.025	1.046		10.2	10.0	2.0	35.0
Chlorodibromomethane	Lin2		0.6559		9.74	10.0	-2.6	35.0
1,2-Dibromoethane	Lin2		0.4864		9.58	10.0	-4.2	35.0
1-Chlorohexane	Lin1		1.703		9.50	10.0	-5.0	35.0
Chlorobenzene	Ave	3.186	3.071	0.3000	9.64	10.0	-3.6	35.0
1,1,1,2-Tetrachloroethane	Ave	0.9922	0.9910		9.99	10.0	-0.1	35.0
Ethylbenzene	Ave	1.822	1.893		10.4	10.0	3.9	20.0
m-Xylene & p-Xylene	Lin2		2.272		9.99	10.0	-0.1	35.0
o-Xylene	Lin2		2.156		10.0	10.0	0.0	35.0
Styrene	Lin1		3.141		9.50	10.0	-5.0	35.0
Bromoform	Lin2		0.2924	0.1000	9.29	10.0	-7.1	35.0
Isopropylbenzene	Lin1		4.014		10.5	10.0	5.3	35.0
Cyclohexanone	Lin1		0.0095		334	400	-16.6	50.0
1,1,2,2-Tetrachloroethane	Ave	0.3717	0.3716	0.3000	10.0	10.0	-0.0	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0828	0.0858		10.4	10.0	3.6	50.0
1,2,3-Trichloropropane	Ave	0.1072	0.1030		9.60	10.0	-4.0	35.0
Bromobenzene	Ave	0.7673	0.8075		10.5	10.0	5.2	35.0
N-Propylbenzene	Lin2		1.144		9.79	10.0	-2.1	35.0
1,3,5-Trimethylbenzene	Lin2		3.372		10.3	10.0	2.8	35.0
2-Chlorotoluene	Lin2		0.9590		9.68	10.0	-3.2	35.0
4-Chlorotoluene	Lin2		0.9274		9.72	10.0	-2.8	35.0
tert-Butylbenzene	Lin2		3.336		10.2	10.0	2.4	35.0
1,2,4-Trimethylbenzene	Lin2		3.394		10.1	10.0	1.3	35.0
sec-Butylbenzene	Lin2		0.9179		9.78	10.0	-2.2	35.0
4-Isopropyltoluene	Lin2		3.802		10.3	10.0	2.9	35.0
1,3-Dichlorobenzene	Ave	1.653	1.721		10.4	10.0	4.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420184/2 Calibration Date: 06/27/2018 07:35  
 Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33  
 Lab File ID: MS1\_3652.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.661	1.662		10.0	10.0	0.0	35.0
n-Butylbenzene	Lin2		3.739		10.6	10.0	6.3	35.0
1,2-Dichlorobenzene	Ave	1.309	1.364		10.4	10.0	4.2	35.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0441		8.71	10.0	-12.9	50.0
1,2,4-Trichlorobenzene	Lin1		0.8834		9.24	10.0	-7.6	35.0
Hexachlorobutadiene	Ave	0.6973	0.7509		10.8	10.0	7.7	35.0
Naphthalene	Lin1		0.9813		8.91	10.0	-10.9	35.0
1,2,3-Trichlorobenzene	Lin1		0.6685		9.05	10.0	-9.5	35.0
Dibromofluoromethane (Surr)	Ave	0.2333	0.2264		13.1	13.5	-2.9	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1961	0.1937		13.3	13.5	-1.2	35.0
Toluene-d8 (Surr)	Ave	4.260	4.216		13.4	13.5	-1.0	35.0
4-Bromofluorobenzene (Surr)	Ave	0.9650	0.9338		13.1	13.5	-3.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420929/2 Calibration Date: 07/03/2018 07:35

Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33

Lab File ID: MS1\_3920.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.3102		9.42	10.0	-5.8	50.0
Chloromethane	Ave	0.3149	0.2999	0.1000	9.52	10.0	-4.8	35.0
Vinyl chloride	Ave	0.3154	0.2923		9.27	10.0	-7.3	20.0
Bromomethane	Ave	0.2757	0.2236		8.11	10.0	-18.9	35.0
Chloroethane	Ave	0.2461	0.2247		9.13	10.0	-8.7	35.0
Dichlorofluoromethane	Ave	0.5782	0.5744		9.93	10.0	-0.7	50.0
Trichlorofluoromethane	Ave	0.4928	0.4745		9.63	10.0	-3.7	50.0
Ethyl ether	Ave	0.1221	0.1190		9.74	10.0	-2.6	35.0
Acrolein	Ave	0.0136	0.0140		103	100	2.5	50.0
Acetone	Lin2		0.0239		44.6	40.0	11.5	50.0
Freon 113	Ave	0.2132	0.2125		9.96	10.0	-0.4	50.0
1,1-Dichloroethene	Ave	0.2397	0.2606		10.9	10.0	8.7	20.0
Iodomethane	Ave	0.4095	0.4235		10.3	10.0	3.4	35.0
Methyl acetate	Ave	0.0561	0.0613		21.8	20.0	9.2	50.0
Allyl chloride	Ave	0.3963	0.5389		13.6	10.0	36.0*	35.0
Carbon disulfide	Ave	1.070	1.191		11.1	10.0	11.3	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.218	1.257		103	100	3.2	50.0
Methylene Chloride	Ave	0.2601	0.2508		9.64	10.0	-3.6	35.0
Acrylonitrile	Ave	0.0286	0.0304		106	100	6.4	50.0
Methyl tert-butyl ether	Lin1		0.3506		9.31	10.0	-6.9	35.0
trans-1,2-Dichloroethene	Ave	0.2806	0.2946		10.5	10.0	5.0	35.0
Hexane	Lin1		2.197		10.7	10.0	7.2	35.0
Vinyl acetate	Lin1		0.2373		23.8	20.0	19.0	50.0
1,1-Dichloroethane	Ave	0.4893	0.5368	0.1000	11.0	10.0	9.7	35.0
Methyl ethyl ketone (MEK)	Lin1		0.0414		42.4	40.0	6.0	50.0
sec-Butyl Alcohol	Ave	0.8857	0.9769		331	300	10.3	50.0
cis-1,2-Dichloroethene	Ave	0.2816	0.2970		10.5	10.0	5.5	35.0
2,2-Dichloropropane	Ave	0.3641	0.4337		11.9	10.0	19.1	35.0
Chlorobromomethane	Ave	0.0969	0.0917		9.46	10.0	-5.4	35.0
Chloroform	Ave	0.4469	0.4849		10.8	10.0	8.5	20.0
Tetrahydrofuran	Lin2		0.0219		21.3	20.0	6.3	50.0
Isobutyl alcohol	Ave	0.4444	0.4896		275	250	10.2	50.0
1,1,1-Trichloroethane	Ave	0.4066	0.4704		11.6	10.0	15.7	35.0
Cyclohexane	Lin2		0.5553		11.0	10.0	10.2	35.0
1,1-Dichloropropene	Lin2		0.4333		10.7	10.0	6.7	35.0
Carbon tetrachloride	Ave	0.3766	0.4153		11.0	10.0	10.3	35.0
1,2-Dichloroethane	Ave	0.2312	0.2598		11.2	10.0	12.4	35.0
Benzene	Ave	1.055	1.148		10.9	10.0	8.9	35.0
n-Heptane	Lin2		0.5403		12.6	10.0	25.6	50.0
Trichloroethene	Ave	0.2677	0.2918		10.9	10.0	9.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420929/2 Calibration Date: 07/03/2018 07:35

Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33

Lab File ID: MS1\_3920.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Lin2		0.0566		45.1	40.0	12.8	50.0
1,2-Dichloropropane	Ave	0.2396	0.2571		10.7	10.0	7.3	20.0
Methylcyclohexane	Ave	0.3898	0.4629		11.9	10.0	18.8	35.0
1,4-Dioxane	Lin2		0.0008		169	200	-15.3	50.0
Dibromomethane	Ave	0.0915	0.0935		10.2	10.0	2.2	35.0
Dichlorobromomethane	Ave	0.2615	0.2978		11.4	10.0	13.9	35.0
2-Chloroethyl vinyl ether	Lin1		0.0507		7.93	10.0	-20.7	50.0
cis-1,3-Dichloropropene	Lin1		1.455		9.86	10.0	-1.4	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0783		42.4	40.0	6.0	50.0
Toluene	Ave	1.077	1.178		10.9	10.0	9.4	20.0
Ethyl methacrylate	Lin1		0.5746		8.83	10.0	-11.7	35.0
trans-1,3-Dichloropropene	Lin1		0.2460		9.91	10.0	-0.9	35.0
1,1,2-Trichloroethane	Ave	0.1212	0.1199		9.90	10.0	-1.0	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.2302		42.0	40.0	5.0	50.0
1,3-Dichloropropane	Ave	1.047	1.076		10.3	10.0	2.7	35.0
Tetrachloroethene	Ave	1.025	1.075		10.5	10.0	4.9	35.0
Chlorodibromomethane	Lin2		0.6699		9.94	10.0	-0.6	35.0
1,2-Dibromoethane	Lin2		0.4987		9.82	10.0	-1.8	35.0
1-Chlorohexane	Lin1		1.840		10.2	10.0	2.4	35.0
Chlorobenzene	Ave	3.186	3.161	0.3000	9.92	10.0	-0.8	35.0
1,1,1,2-Tetrachloroethane	Ave	0.9922	1.029		10.4	10.0	3.7	35.0
Ethylbenzene	Ave	1.822	1.981		10.9	10.0	8.7	20.0
m-Xylene & p-Xylene	Lin2		2.396		10.5	10.0	5.2	35.0
o-Xylene	Lin2		2.232		10.4	10.0	3.6	35.0
Styrene	Lin1		3.267		9.87	10.0	-1.3	35.0
Bromoform	Lin2		0.2976	0.1000	9.45	10.0	-5.5	35.0
Isopropylbenzene	Lin1		4.351		11.4	10.0	14.1	35.0
Cyclohexanone	Lin1		0.0100		352	400	-12.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.3717	0.3841	0.3000	10.3	10.0	3.3	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0828	0.0968		11.7	10.0	16.8	50.0
1,2,3-Trichloropropane	Ave	0.1072	0.1082		10.1	10.0	0.9	35.0
Bromobenzene	Ave	0.7673	0.8290		10.8	10.0	8.1	35.0
N-Propylbenzene	Lin2		1.233		10.5	10.0	5.4	35.0
1,3,5-Trimethylbenzene	Lin2		3.657		11.1	10.0	11.3	35.0
2-Chlorotoluene	Lin2		1.011		10.2	10.0	1.9	35.0
4-Chlorotoluene	Lin2		0.9780		10.2	10.0	2.4	35.0
tert-Butylbenzene	Lin2		3.586		11.0	10.0	10.0	35.0
1,2,4-Trimethylbenzene	Lin2		3.687		11.0	10.0	9.9	35.0
sec-Butylbenzene	Lin2		0.9843		10.5	10.0	4.8	35.0
4-Isopropyltoluene	Lin2		4.121		11.1	10.0	11.4	35.0
1,3-Dichlorobenzene	Ave	1.653	1.793		10.8	10.0	8.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420929/2 Calibration Date: 07/03/2018 07:35  
 Instrument ID: VMS\_MS1 Calib Start Date: 06/11/2018 12:30  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/11/2018 14:33  
 Lab File ID: MS1\_3920.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.661	1.729		10.4	10.0	4.1	35.0
n-Butylbenzene	Lin2		4.138		11.8	10.0	17.5	35.0
1,2-Dichlorobenzene	Ave	1.309	1.395		10.7	10.0	6.6	35.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0421		8.36	10.0	-16.4	50.0
1,2,4-Trichlorobenzene	Lin1		0.8948		9.35	10.0	-6.5	35.0
Hexachlorobutadiene	Ave	0.6973	0.7853		11.3	10.0	12.6	35.0
Naphthalene	Lin1		0.9716		8.83	10.0	-11.7	35.0
1,2,3-Trichlorobenzene	Lin1		0.6740		9.12	10.0	-8.8	35.0
Dibromofluoromethane (Surr)	Ave	0.2333	0.2168		12.5	13.5	-7.1	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1961	0.1962		13.5	13.5	0.0	35.0
Toluene-d8 (Surr)	Ave	4.260	4.346		13.8	13.5	2.0	35.0
4-Bromofluorobenzene (Surr)	Ave	0.9650	0.9848		13.8	13.5	2.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-421403/17 Calibration Date: 07/08/2018 16:48

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2369.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.6440	0.5453		8.47	10.0	-15.3	55.0
Chloromethane	Lin1		0.5280	0.1000	9.95	10.0	-0.5	35.0
Vinyl chloride	Ave	0.6509	0.5515		8.47	10.0	-15.3	35.0
Bromomethane	Lin2		0.3902		9.62	10.0	-3.8	35.0
Chloroethane	Lin1		0.3026		10.2	10.0	2.3	35.0
Dichlorofluoromethane	Lin2		0.8185		10.3	10.0	2.8	55.0
Trichlorofluoromethane	Lin2		0.7643		9.49	10.0	-5.1	50.0
Ethyl ether	Lin2		0.1691		10.7	10.0	6.7	35.0
Acrolein	Lin2		0.0128		71.4	100	-28.6	55.0
Freon 113	Lin2		0.4092		10.0	10.0	0.0	55.0
1,1-Dichloroethene	Lin2		0.4079		10.2	10.0	1.6	35.0
Acetone	Lin2		0.0359		45.1	40.0	12.8	55.0
Iodomethane	Ave	0.7085	0.6837		9.65	10.0	-3.5	35.0
Methyl acetate	Lin2		0.0730		48.4	50.0	-3.2	55.0
Allyl chloride	Lin2		0.6461		10.3	10.0	2.8	35.0
Carbon disulfide	Lin2		1.464		9.79	10.0	-2.1	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0114	0.0109		95.2	100	-4.8	55.0
Methylene Chloride	Lin2		0.3427		10.6	10.0	6.0	35.0
Methyl tert-butyl ether	Lin2		0.5192		10.1	10.0	1.3	35.0
trans-1,2-Dichloroethene	Lin2		0.4248		10.1	10.0	1.1	35.0
Acrylonitrile	Lin2		0.0355		102	100	2.2	55.0
Hexane	Lin2		2.462		9.71	10.0	-2.9	35.0
Vinyl acetate	Ave	0.2723	0.2187		16.1	20.0	-19.7	55.0
1,1-Dichloroethane	Lin2		0.6658	0.1000	10.1	10.0	1.4	35.0
Methyl ethyl ketone (MEK)	Lin2		0.0566		43.1	40.0	7.7	55.0
sec-Butyl Alcohol	Ave	1.097	1.114		305	300	1.5	
2,2-Dichloropropane	Lin2		0.6499		10.1	10.0	1.3	35.0
cis-1,2-Dichloroethene	Lin2		0.4094		10.4	10.0	4.2	35.0
Chloroform	Lin2		0.6362		10.1	10.0	0.8	35.0
Tetrahydrofuran	Ave	0.0337	0.0304		18.0	20.0	-9.9	55.0
Chlorobromomethane	Lin2		0.1560		10.3	10.0	2.5	35.0
1,1,1-Trichloroethane	Lin2		0.7003		10.1	10.0	0.5	35.0
Isobutyl alcohol	Ave	1.164	1.152		247	250	-1.0	55.0
Cyclohexane	Ave	0.7826	0.7432		9.50	10.0	-5.0	35.0
1,1-Dichloropropene	Lin2		0.5908		10.1	10.0	0.7	35.0
Carbon tetrachloride	Lin2		0.6534		10.1	10.0	0.9	35.0
n-Heptane	Lin2		0.6753		9.83	10.0	-1.7	50.0
Benzene	Lin2		1.343		9.98	10.0	-0.2	35.0
1,2-Dichloroethane	Lin2		0.3415		10.2	10.0	1.8	35.0
Trichloroethene	Lin2		0.4387		10.0	10.0	0.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-421403/17 Calibration Date: 07/08/2018 16:48

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2369.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0829	0.0698		33.7	40.0	-15.9	55.0
Methylcyclohexane	Ave	0.6599	0.6208		9.41	10.0	-5.9	35.0
1,2-Dichloropropane	Lin2		0.3284		10.4	10.0	4.4	35.0
1,4-Dioxane	Ave	0.0014	0.0014		187	200	-6.7	55.0
Dibromomethane	Lin2		0.1399		10.1	10.0	1.1	35.0
Dichlorobromomethane	Lin2		0.4058		10.0	10.0	0.3	35.0
2-Chloroethyl vinyl ether	Ave	0.0992	0.0801		8.07	10.0	-19.3	55.0
cis-1,3-Dichloropropene	Ave	1.757	1.712		9.74	10.0	-2.6	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1025	0.1003		39.1	40.0	-2.2	55.0
Toluene	Lin2		1.444		10.1	10.0	0.5	35.0
Ethyl methacrylate	Ave	0.7725	0.7338		9.50	10.0	-5.0	35.0
trans-1,3-Dichloropropene	Lin2		0.3410		10.2	10.0	2.3	35.0
1,1,2-Trichloroethane	Lin2		0.1843		10.3	10.0	2.6	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2600	0.2692		41.4	40.0	3.5	55.0
Tetrachloroethene	Lin2		1.531		9.70	10.0	-3.0	35.0
1,3-Dichloropropane	Ave	1.210	1.149		9.50	10.0	-5.0	35.0
Chlorodibromomethane	Lin2		0.9746		10.2	10.0	1.6	35.0
1,2-Dibromoethane	Lin2		0.6789		9.97	10.0	-0.3	35.0
1-Chlorohexane	Ave	2.482	2.280		9.19	10.0	-8.1	35.0
Chlorobenzene	Lin2		3.603	0.3000	9.92	10.0	-0.8	35.0
Ethylbenzene	Lin2		2.320		9.72	10.0	-2.8	35.0
1,1,1,2-Tetrachloroethane	Ave	1.434	1.381		9.63	10.0	-3.7	35.0
m-Xylene & p-Xylene	Lin2		5.193		9.97	10.0	-0.3	35.0
o-Xylene	Lin2		2.542		9.79	10.0	-2.1	35.0
Styrene	Ave	3.994	3.693		9.25	10.0	-7.5	35.0
Bromoform	Ave	0.5475	0.5307	0.1000	9.69	10.0	-3.1	35.0
Isopropylbenzene	Lin2		4.376		10.1	10.0	0.8	35.0
Cyclohexanone	Ave	0.0140	0.0140		400	400	0.0	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4580	0.4569	0.3000	9.98	10.0	-0.2	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1705	0.1703		9.99	10.0	-0.0	55.0
N-Propylbenzene	Lin2		1.393		10.2	10.0	2.5	35.0
1,2,3-Trichloropropane	Ave	0.1518	0.1455		9.59	10.0	-4.1	35.0
Bromobenzene	Lin1		1.014		11.0	10.0	10.0	35.0
1,3,5-Trimethylbenzene	Lin2		3.600		9.98	10.0	-0.2	35.0
2-Chlorotoluene	Lin2		1.153		10.1	10.0	1.2	35.0
4-Chlorotoluene	Lin2		1.148		9.98	10.0	-0.2	35.0
tert-Butylbenzene	Lin2		3.312		9.74	10.0	-2.6	35.0
1,2,4-Trimethylbenzene	Lin2		3.572		10.2	10.0	1.8	35.0
sec-Butylbenzene	Lin2		1.159		9.92	10.0	-0.8	35.0
4-Isopropyltoluene	Lin2		4.222		9.98	10.0	-0.2	35.0
1,3-Dichlorobenzene	Lin2		2.003		9.96	10.0	-0.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-421403/17 Calibration Date: 07/08/2018 16:48  
 Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27  
 Lab File ID: MS9\_2369.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Lin2		1.938		10.2	10.0	2.4	35.0
n-Butylbenzene	Lin2		4.039		9.77	10.0	-2.3	35.0
1,2-Dichlorobenzene	Lin1		1.640		11.0	10.0	10.3	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0938	0.0936		9.97	10.0	-0.3	55.0
1,2,4-Trichlorobenzene	Lin1		1.275		10.7	10.0	7.2	35.0
Hexachlorobutadiene	Lin2		1.125		9.68	10.0	-3.2	35.0
Naphthalene	Lin2		1.417		9.77	10.0	-2.3	35.0
1,2,3-Trichlorobenzene	Lin1		1.048		11.1	10.0	11.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-421403/30 Calibration Date: 07/08/2018 19:14  
 Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 17:09  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 18:53  
 Lab File ID: MS9\_2376.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Lin1		0.0037		973	1000	-2.7	55.0
Ethanol	Lin2		0.1470		604	600	0.6	55.0
Propene oxide	Ave	0.0145	0.0130		899	1000	-10.1	
2-Propanol	Ave	0.9120	1.110		122	100	21.7	55.0
Acetonitrile	Ave	0.0129	0.0130		100	100	0.1	55.0
Di-isopropyl ether (DIPE)	Ave	0.2557	0.2574		10.1	10.0	0.6	35.0
Chloroprene	Ave	0.6303	0.6545		10.4	10.0	3.8	35.0
Tert-butyl ethyl ether	Ave	0.7119	0.7261		10.2	10.0	2.0	35.0
Ethyl acetate	Lin2		0.0950		20.6	20.0	2.8	55.0
Propionitrile	Ave	0.0145	0.0146		100	100	0.3	55.0
Methacrylonitrile	Ave	0.0649	0.0662		102	100	2.0	55.0
Tert-amyl methyl ether	Ave	0.5662	0.5683		10.0	10.0	0.4	35.0
n-Butanol	Ave	0.3981	0.4216		265	250	5.9	55.0
Methyl methacrylate	Ave	0.0369	0.0367		19.9	20.0	-0.6	35.0
2-Nitropropane	Lin2		0.0241		18.9	20.0	-5.4	55.0
Tetrahydrothiophene	Lin2		0.0448		25.2	20.0	25.8	55.0
cis-1,4-Dichloro-2-butene	Lin2		0.0715		16.8	20.0	-16.2	55.0
1,2,3-Trimethylbenzene	Lin1		3.292		11.2	10.0	11.6	35.0
1,3,5-Trichlorobenzene	Lin1		1.671		10.8	10.0	8.4	50.0
Dibromofluoromethane (Surr)	Ave	0.3255	0.3424		10.5	10.0	5.2	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2681	0.2892		10.8	10.0	7.9	35.0
Toluene-d8 (Surr)	Ave	4.519	4.625		10.2	10.0	2.3	35.0
4-Bromofluorobenzene (Surr)	Ave	1.057	1.074		10.2	10.0	1.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-422211/2 Calibration Date: 07/13/2018 22:22

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2547.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.6440	0.5895		9.15	10.0	-8.5	50.0
Chloromethane	Lin1		0.5186	0.1000	9.76	10.0	-2.4	35.0
Vinyl chloride	Ave	0.6509	0.5719		8.79	10.0	-12.1	20.0
Bromomethane	Lin2		0.3752		9.25	10.0	-7.5	35.0
Chloroethane	Lin1		0.2816		9.50	10.0	-5.0	35.0
Dichlorofluoromethane	Lin2		0.7325		9.18	10.0	-8.2	50.0
Trichlorofluoromethane	Lin2		0.7644		9.49	10.0	-5.1	50.0
Ethyl ether	Lin2		0.1454		9.11	10.0	-8.9	35.0
Acrolein	Lin2		0.0144		80.4	100	-19.6	50.0
Freon 113	Lin2		0.4263		10.4	10.0	4.3	50.0
1,1-Dichloroethene	Lin2		0.4021		10.0	10.0	0.1	20.0
Acetone	Lin2		0.0268		32.0	40.0	-19.9	50.0
Iodomethane	Ave	0.7085	0.6935		9.79	10.0	-2.1	35.0
Methyl acetate	Lin2		0.0743		19.3	20.0	-3.5	50.0
Allyl chloride	Lin2		0.6169		9.81	10.0	-1.9	35.0
Carbon disulfide	Lin2		1.510		10.1	10.0	1.1	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0114	0.0092		80.3	100	-19.7	50.0
Methylene Chloride	Lin2		0.3252		10.0	10.0	0.3	35.0
Methyl tert-butyl ether	Lin2		0.4623		9.01	10.0	-9.9	35.0
trans-1,2-Dichloroethene	Lin2		0.4178		9.94	10.0	-0.6	35.0
Acrylonitrile	Lin2		0.0314		90.3	100	-9.7	50.0
Hexane	Lin2		2.274		8.95	10.0	-10.5	35.0
Vinyl acetate	Ave	0.2723	0.2217		16.3	20.0	-18.6	50.0
1,1-Dichloroethane	Lin2		0.6422	0.1000	9.78	10.0	-2.2	35.0
Methyl ethyl ketone (MEK)	Lin2		0.0456		34.4	40.0	-14.0	50.0
sec-Butyl Alcohol	Ave	1.097	1.038		284	300	-5.4	50.0
2,2-Dichloropropane	Lin2		0.6869		10.7	10.0	7.1	35.0
cis-1,2-Dichloroethene	Lin2		0.3980		10.1	10.0	1.2	35.0
Chloroform	Lin2		0.6089		9.64	10.0	-3.6	20.0
Tetrahydrofuran	Ave	0.0337	0.0291		17.2	20.0	-13.8	50.0
Chlorobromomethane	Lin2		0.1464		9.61	10.0	-3.9	35.0
1,1,1-Trichloroethane	Lin2		0.7303		10.5	10.0	4.9	35.0
Isobutyl alcohol	Ave	1.164	1.206		259	250	3.7	50.0
Cyclohexane	Ave	0.7826	0.7379		9.43	10.0	-5.7	35.0
1,1-Dichloropropene	Lin2		0.5814		9.91	10.0	-0.9	35.0
Carbon tetrachloride	Lin2		0.7039		10.9	10.0	8.8	35.0
n-Heptane	Lin2		0.6820		9.93	10.0	-0.7	50.0
Benzene	Lin2		1.317		9.79	10.0	-2.1	35.0
1,2-Dichloroethane	Lin2		0.3262		9.71	10.0	-2.9	35.0
Trichloroethene	Lin2		0.4478		10.2	10.0	2.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-422211/2 Calibration Date: 07/13/2018 22:22

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2547.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0829	0.0640		30.9	40.0	-22.8	50.0
Methylcyclohexane	Ave	0.6599	0.6318		9.57	10.0	-4.3	35.0
1,2-Dichloropropane	Lin2		0.2983		9.47	10.0	-5.3	20.0
1,4-Dioxane	Ave	0.0014	0.0012		167	200	-16.5	50.0
Dibromomethane	Lin2		0.1360		9.82	10.0	-1.8	35.0
Dichlorobromomethane	Lin2		0.4069		10.1	10.0	0.6	35.0
2-Chloroethyl vinyl ether	Ave	0.0992	0.0914		9.21	10.0	-7.9	50.0
cis-1,3-Dichloropropene	Ave	1.757	1.517		8.63	10.0	-13.7	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1025	0.0789		30.8	40.0	-23.0	50.0
Toluene	Lin2		1.453		10.1	10.0	1.2	20.0
Ethyl methacrylate	Ave	0.7725	0.6167		7.98	10.0	-20.2	35.0
trans-1,3-Dichloropropene	Lin2		0.3304		9.91	10.0	-0.9	35.0
1,1,2-Trichloroethane	Lin2		0.1685		9.36	10.0	-6.4	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2600	0.1999		30.7	40.0	-23.1	50.0
Tetrachloroethene	Lin2		1.560		9.88	10.0	-1.2	35.0
1,3-Dichloropropane	Ave	1.210	1.036		8.56	10.0	-14.4	35.0
Chlorodibromomethane	Lin2		0.9383		9.77	10.0	-2.3	35.0
1,2-Dibromoethane	Lin2		0.6234		9.14	10.0	-8.6	35.0
1-Chlorohexane	Ave	2.482	2.240		9.03	10.0	-9.7	35.0
Chlorobenzene	Lin2		3.442	0.3000	9.47	10.0	-5.3	35.0
Ethylbenzene	Lin2		2.324		9.73	10.0	-2.7	20.0
1,1,1,2-Tetrachloroethane	Ave	1.434	1.257		8.77	10.0	-12.3	35.0
m-Xylene & p-Xylene	Lin2		5.036		9.66	10.0	-3.4	35.0
o-Xylene	Lin2		2.463		9.48	10.0	-5.2	35.0
Styrene	Ave	3.994	3.608		9.03	10.0	-9.7	35.0
Bromoform	Ave	0.5475	0.5057	0.1000	9.24	10.0	-7.6	35.0
Isopropylbenzene	Lin2		4.163		9.58	10.0	-4.2	35.0
Cyclohexanone	Ave	0.0140	0.0109		311	400	-22.3	50.0
1,1,2,2-Tetrachloroethane	Ave	0.4580	0.3871	0.3000	8.45	10.0	-15.5	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1705	0.1491		8.75	10.0	-12.5	50.0
N-Propylbenzene	Lin2		1.363		10.0	10.0	0.1	35.0
1,2,3-Trichloropropane	Ave	0.1518	0.1269		8.36	10.0	-16.4	35.0
Bromobenzene	Lin1		0.9706		10.5	10.0	5.1	35.0
1,3,5-Trimethylbenzene	Lin2		3.426		9.49	10.0	-5.1	35.0
2-Chlorotoluene	Lin2		1.109		9.72	10.0	-2.8	35.0
4-Chlorotoluene	Lin2		1.102		9.58	10.0	-4.2	35.0
tert-Butylbenzene	Lin2		3.234		9.51	10.0	-4.9	35.0
1,2,4-Trimethylbenzene	Lin2		3.450		9.82	10.0	-1.8	35.0
sec-Butylbenzene	Lin2		1.131		9.67	10.0	-3.3	35.0
4-Isopropyltoluene	Lin2		4.193		9.91	10.0	-0.9	35.0
1,3-Dichlorobenzene	Lin2		1.952		9.70	10.0	-3.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-422211/2 Calibration Date: 07/13/2018 22:22  
 Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27  
 Lab File ID: MS9\_2547.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Lin2		1.868		9.86	10.0	-1.4	35.0
n-Butylbenzene	Lin2		4.256		10.3	10.0	3.1	35.0
1,2-Dichlorobenzene	Lin1		1.579		10.6	10.0	6.1	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0938	0.0821		8.75	10.0	-12.5	50.0
1,2,4-Trichlorobenzene	Lin1		1.212		10.1	10.0	1.5	35.0
Hexachlorobutadiene	Lin2		1.179		10.2	10.0	1.5	35.0
Naphthalene	Lin2		1.253		8.61	10.0	-13.9	35.0
1,2,3-Trichlorobenzene	Lin1		0.9550		10.0	10.0	0.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-422211/2 Calibration Date: 07/13/2018 22:22  
Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 17:09  
GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 18:53  
Lab File ID: MS9\_2547.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.3255	0.2966		10.0	11.0	-8.9	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2681	0.2434		9.99	11.0	-9.2	35.0
Toluene-d8 (Surr)	Ave	4.519	4.074		9.92	11.0	-9.9	35.0
4-Bromofluorobenzene (Surr)	Ave	1.057	0.9695		10.1	11.0	-8.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-419367/17 Calibration Date: 06/21/2018 02:47

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2078.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3816	0.3952		10.4	10.0	3.6	55.0
Chloromethane	Ave	0.1980	0.2024	0.1000	10.2	10.0	2.2	35.0
Vinyl chloride	Ave	0.2396	0.2504		10.5	10.0	4.5	35.0
Bromomethane	Ave	0.1789	0.2038		11.4	10.0	13.9	35.0
Chloroethane	Ave	0.1429	0.1500		10.5	10.0	4.9	35.0
Dichlorofluoromethane	Ave	0.4339	0.4617		10.6	10.0	6.4	55.0
Trichlorofluoromethane	Ave	0.4853	0.4980		10.3	10.0	2.6	50.0
Ethyl ether	Ave	0.0783	0.0738		9.42	10.0	-5.8	35.0
Acrolein	Ave	0.0129	0.0095		73.5	100	-26.5	55.0
Acetone	Lin2		0.0197		44.6	40.0	11.5	55.0
Freon 113	Ave	0.3011	0.2772		9.20	10.0	-8.0	55.0
1,1-Dichloroethene	Ave	0.3575	0.3215		8.99	10.0	-10.1	35.0
Iodomethane	Ave	0.5095	0.4479		8.79	10.0	-12.1	35.0
Methyl acetate	Ave	0.0496	0.0437		44.1	50.0	-11.8	55.0
Allyl chloride	Ave	0.4045	0.3805		9.41	10.0	-5.9	35.0
Carbon disulfide	Ave	1.392	1.227		8.81	10.0	-11.9	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		0.0056		92.1	100	-7.9	55.0
Methylene Chloride	Ave	0.3382	0.2806		8.30	10.0	-17.0	35.0
Acrylonitrile	Ave	0.0285	0.0273		95.8	100	-4.2	55.0
Methyl tert-butyl ether	Ave	0.3739	0.3585		9.59	10.0	-4.1	35.0
trans-1,2-Dichloroethene	Ave	0.3810	0.3650		9.58	10.0	-4.2	35.0
Hexane	Ave	2.578	2.411		9.35	10.0	-6.5	35.0
Vinyl acetate	Lin2		0.1782		20.7	20.0	3.4	55.0
1,1-Dichloroethane	Ave	0.5894	0.5524	0.1000	9.37	10.0	-6.3	35.0
Methyl ethyl ketone (MEK)	Ave	0.0265	0.0253		38.2	40.0	-4.5	55.0
sec-Butyl Alcohol	Ave	0.9112	0.8903		293	300	-2.3	
cis-1,2-Dichloroethene	Ave	0.3634	0.3499		9.63	10.0	-3.7	35.0
2,2-Dichloropropane	Ave	0.4542	0.4258		9.37	10.0	-6.3	35.0
Chlorobromomethane	Ave	0.1118	0.1063		9.51	10.0	-4.9	35.0
Chloroform	Ave	0.5354	0.5158		9.63	10.0	-3.7	35.0
Tetrahydrofuran	Ave	0.0160	0.0149		18.5	20.0	-7.3	55.0
Isobutyl alcohol	Ave	0.4189	0.4144		247	250	-1.1	55.0
1,1,1-Trichloroethane	Ave	0.5193	0.5078		9.78	10.0	-2.2	35.0
Cyclohexane	Lin2		0.6145		9.51	10.0	-4.9	35.0
1,1-Dichloropropene	Ave	0.5106	0.5162		10.1	10.0	1.1	35.0
Carbon tetrachloride	Ave	0.4677	0.4533		9.69	10.0	-3.1	35.0
1,2-Dichloroethane	Ave	0.2390	0.2234		9.35	10.0	-6.5	35.0
Benzene	Ave	1.417	1.351		9.53	10.0	-4.7	35.0
n-Heptane	Lin2		0.4614		9.61	10.0	-3.9	50.0
Trichloroethene	Ave	0.3607	0.3449		9.56	10.0	-4.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-419367/17 Calibration Date: 06/21/2018 02:47

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2078.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0409	0.0405		39.6	40.0	-1.1	55.0
1,2-Dichloropropane	Ave	0.2784	0.2736		9.83	10.0	-1.7	35.0
Methylcyclohexane	Ave	0.5046	0.4917		9.74	10.0	-2.6	35.0
1,4-Dioxane	Lin2		0.0009		176	200	-12.0	55.0
Dibromomethane	Ave	0.1015	0.0971		9.56	10.0	-4.4	35.0
Dichlorobromomethane	Ave	0.3049	0.2938		9.64	10.0	-3.6	35.0
2-Chloroethyl vinyl ether	Lin2		0.0574		8.99	10.0	-10.1	55.0
cis-1,3-Dichloropropene	Lin1		1.575		8.90	10.0	-11.0	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0624		39.8	40.0	-0.6	55.0
Toluene	Ave	1.441	1.508		10.5	10.0	4.6	35.0
Ethyl methacrylate	Lin2		0.6361		8.98	10.0	-10.2	35.0
trans-1,3-Dichloropropene	Lin2		0.2448		9.19	10.0	-8.1	35.0
1,1,2-Trichloroethane	Ave	0.1429	0.1440		10.1	10.0	0.8	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.1915		40.4	40.0	0.9	55.0
1,3-Dichloropropane	Ave	1.244	1.212		9.74	10.0	-2.6	35.0
Tetrachloroethene	Ave	1.419	1.361		9.59	10.0	-4.1	35.0
Chlorodibromomethane	Lin2		0.7139		8.99	10.0	-10.1	35.0
1,2-Dibromoethane	Ave	0.5838	0.5525		9.46	10.0	-5.4	35.0
1-Chlorohexane	Lin2		2.456		9.95	10.0	-0.5	35.0
Chlorobenzene	Ave	4.290	4.104	0.3000	9.57	10.0	-4.3	35.0
1,1,1,2-Tetrachloroethane	Ave	1.130	1.167		10.3	10.0	3.3	35.0
Ethylbenzene	Ave	2.585	2.622		10.1	10.0	1.4	35.0
m-Xylene & p-Xylene	Ave	3.066	3.124		10.2	10.0	1.9	35.0
o-Xylene	Lin2		2.856		9.97	10.0	-0.3	35.0
Styrene	Ave	3.993	4.161		10.4	10.0	4.2	35.0
Bromoform	Lin2		0.2829	0.1000	8.91	10.0	-10.9	35.0
Isopropylbenzene	Lin2		5.577		10.1	10.0	0.8	35.0
Cyclohexanone	Lin2		0.0111		388	400	-2.9	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4627	0.4427	0.3000	9.57	10.0	-4.3	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0927	0.0902		9.73	10.0	-2.7	55.0
1,2,3-Trichloropropane	Ave	0.1248	0.1216		9.74	10.0	-2.6	35.0
Bromobenzene	Ave	0.9516	0.9543		10.0	10.0	0.3	35.0
N-Propylbenzene	Ave	1.608	1.629		10.1	10.0	1.3	35.0
1,3,5-Trimethylbenzene	Lin2		4.548		9.99	10.0	-0.1	35.0
2-Chlorotoluene	Ave	1.186	1.245		10.5	10.0	4.9	35.0
4-Chlorotoluene	Ave	1.198	1.214		10.1	10.0	1.4	35.0
tert-Butylbenzene	Lin2		4.513		9.81	10.0	-1.9	35.0
1,2,4-Trimethylbenzene	Lin2		4.453		9.59	10.0	-4.1	35.0
sec-Butylbenzene	Lin2		1.282		9.80	10.0	-2.0	35.0
4-Isopropyltoluene	Lin2		5.154		9.88	10.0	-1.2	35.0
1,3-Dichlorobenzene	Ave	2.178	2.100		9.64	10.0	-3.6	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419367/17 Calibration Date: 06/21/2018 02:47  
 Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28  
 Lab File ID: R2078.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	2.148	2.040		9.50	10.0	-5.0	35.0
n-Butylbenzene	Lin2		5.004		9.93	10.0	-0.7	35.0
1,2-Dichlorobenzene	Ave	1.681	1.624		9.66	10.0	-3.4	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0439		8.74	10.0	-12.6	55.0
1,2,4-Trichlorobenzene	Lin2		0.9495		9.22	10.0	-7.8	35.0
Hexachlorobutadiene	Ave	0.8249	0.7968		9.66	10.0	-3.4	35.0
Naphthalene	Lin2		1.122		8.48	10.0	-15.2	35.0
1,2,3-Trichlorobenzene	Ave	0.7684	0.7319		9.52	10.0	-4.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419367/24 Calibration Date: 06/21/2018 09:29  
Instrument ID: VMS\_R1 Calib Start Date: 03/05/2018 07:47  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 03/05/2018 09:22  
Lab File ID: R2091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Propene oxide	Ave	0.0197				1000		
Tetrahydrothiophene	Lin1					20.0	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419367/24 Calibration Date: 06/21/2018 09:29  
Instrument ID: VMS\_R1 Calib Start Date: 05/14/2018 13:05  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 05/14/2018 14:41  
Lab File ID: R2091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0795				600		



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-419367/24 Calibration Date: 06/21/2018 09:29

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 07:34

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 09:10

Lab File ID: R2091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlorotrifluoroethene	Lin1		0.1044		9.71	10.0	-2.9	55.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Lin1		0.1820		9.07	10.0	-9.3	50.0
2-Chloro-1,1,1-Trifluoroethane	Ave	0.2970	0.2882		9.70	10.0	-3.0	55.0
Ethylene oxide	Ave	0.0020	0.0016		832	1000	-16.8	55.0
1,2-Dichloro-1,1,2-trifluoroethane	Ave	0.2696	0.2655		9.85	10.0	-1.5	55.0
2,2-Dichloro-1,1,1-trifluoroethane	Ave	0.3496	0.3850		11.0	10.0	10.1	55.0
2-Propanol	Ave	1.002	0.8871		88.5	100	-11.5	55.0
Acetonitrile	Ave	0.0077	0.0066		86.1	100	-13.9	55.0
Di-isopropyl ether (DIPE)	Lin2		0.1819		9.36	10.0	-6.4	35.0
Chloroprene	Lin2		0.3972		8.66	10.0	-13.4	35.0
Tert-butyl ethyl ether	Ave	0.4250	0.4102		9.65	10.0	-3.5	35.0
Ethyl acetate	Ave	0.0411	0.0377		18.3	20.0	-8.3	55.0
Propionitrile	Ave	0.0094	0.0085		89.6	100	-10.4	55.0
Methacrylonitrile	Ave	0.0356	0.0331		92.9	100	-7.1	55.0
Tert-amyl methyl ether	Lin2		0.3215		8.92	10.0	-10.8	35.0
n-Butanol	Ave	0.5223	0.4553		218	250	-12.8	55.0
Methyl methacrylate	Lin2		0.0190		16.4	20.0	-17.9	35.0
2-Nitropropane	Lin1		0.0077		19.0	20.0	-5.2	55.0
cis-1,4-Dichloro-2-butene	Lin2		0.0743		15.4	20.0	-23.2	55.0
1,2,3-Trimethylbenzene	Ave	4.233	3.727		8.80	10.0	-12.0	35.0
1,3,5-Trichlorobenzene	Ave	1.546	1.262		8.16	10.0	-18.4	50.0
Dibromofluoromethane (Surr)	Lin1		0.2689		10.1	10.0	1.1	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.1879		10.0	10.0	-0.0	35.0
Toluene-d8 (Surr)	Lin1		5.622		9.91	10.0	-0.9	35.0
4-Bromofluorobenzene (Surr)	Lin1		1.341		10.1	10.0	1.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420311/2 Calibration Date: 06/27/2018 18:46

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2430.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3816	0.4244		11.1	10.0	11.2	50.0
Chloromethane	Ave	0.1980	0.1629	0.1000	8.22	10.0	-17.8	35.0
Vinyl chloride	Ave	0.2396	0.2232		9.32	10.0	-6.8	20.0
Bromomethane	Ave	0.1789	0.2056		11.5	10.0	14.9	35.0
Chloroethane	Ave	0.1429	0.1364		9.55	10.0	-4.5	35.0
Dichlorofluoromethane	Ave	0.4339	0.4406		10.2	10.0	1.5	50.0
Trichlorofluoromethane	Ave	0.4853	0.5771		11.9	10.0	18.9	50.0
Ethyl ether	Ave	0.0783	0.1282		16.4	10.0	63.7*	35.0
Acrolein	Ave	0.0129	0.0141		109	100	9.0	50.0
Acetone	Lin2		0.0181		40.9	40.0	2.1	50.0
1,1-Dichloroethene	Ave	0.3575	0.3528		9.87	10.0	-1.3	20.0
Freon 113	Ave	0.3011	0.3213		10.7	10.0	6.7	50.0
Iodomethane	Ave	0.5095	0.4753		9.33	10.0	-6.7	35.0
Methyl acetate	Ave	0.0496	0.0484		19.5	20.0	-2.4	50.0
Allyl chloride	Ave	0.4045	0.4014		9.92	10.0	-0.8	35.0
Carbon disulfide	Ave	1.392	1.502		10.8	10.0	7.9	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		0.0055		90.9	100	-9.1	50.0
Methylene Chloride	Ave	0.3382	0.3129		9.25	10.0	-7.5	35.0
Acrylonitrile	Ave	0.0285	0.0294		103	100	3.3	50.0
Methyl tert-butyl ether	Ave	0.3739	0.3604		9.64	10.0	-3.6	35.0
trans-1,2-Dichloroethene	Ave	0.3810	0.3917		10.3	10.0	2.8	35.0
Hexane	Ave	2.578	2.812		10.9	10.0	9.1	35.0
Vinyl acetate	Lin2		0.1611		18.7	20.0	-6.4	50.0
1,1-Dichloroethane	Ave	0.5894	0.5878	0.1000	9.97	10.0	-0.3	35.0
Methyl ethyl ketone (MEK)	Ave	0.0265	0.0231		34.8	40.0	-13.1	50.0
sec-Butyl Alcohol	Ave	0.9112	0.9192		303	300	0.9	50.0
cis-1,2-Dichloroethene	Ave	0.3634	0.3662		10.1	10.0	0.8	35.0
2,2-Dichloropropane	Ave	0.4542	0.4768		10.5	10.0	5.0	35.0
Chlorobromomethane	Ave	0.1118	0.1144		10.2	10.0	2.4	35.0
Chloroform	Ave	0.5354	0.5321		9.94	10.0	-0.6	20.0
Tetrahydrofuran	Ave	0.0160	0.0140		17.5	20.0	-12.6	50.0
Isobutyl alcohol	Ave	0.4189	0.4734		282	250	13.0	50.0
1,1,1-Trichloroethane	Ave	0.5193	0.5307		10.2	10.0	2.2	35.0
Cyclohexane	Lin2		0.6685		10.3	10.0	3.4	35.0
1,1-Dichloropropene	Ave	0.5106	0.5447		10.7	10.0	6.7	35.0
Carbon tetrachloride	Ave	0.4677	0.4964		10.6	10.0	6.1	35.0
1,2-Dichloroethane	Ave	0.2390	0.2349		9.83	10.0	-1.7	35.0
Benzene	Ave	1.417	1.436		10.1	10.0	1.4	35.0
n-Heptane	Lin2		0.4919		10.2	10.0	2.4	50.0
Trichloroethene	Ave	0.3607	0.3424		9.49	10.0	-5.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420311/2 Calibration Date: 06/27/2018 18:46

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2430.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0409	0.0391		38.2	40.0	-4.4	50.0
1,2-Dichloropropane	Ave	0.2784	0.2770		9.95	10.0	-0.5	20.0
Methylcyclohexane	Ave	0.5046	0.5435		10.8	10.0	7.7	35.0
1,4-Dioxane	Lin2		0.0010		197	200	-1.3	50.0
Dibromomethane	Ave	0.1015	0.1040		10.2	10.0	2.4	35.0
Dichlorobromomethane	Ave	0.3049	0.3017		9.89	10.0	-1.1	35.0
2-Chloroethyl vinyl ether	Lin2		0.0449		7.23	10.0	-27.7	50.0
cis-1,3-Dichloropropene	Lin1		1.519		8.60	10.0	-14.0	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0591		37.7	40.0	-5.8	50.0
Toluene	Ave	1.441	1.577		10.9	10.0	9.4	20.0
Ethyl methacrylate	Lin2		0.6378		9.01	10.0	-9.9	35.0
trans-1,3-Dichloropropene	Lin2		0.2573		9.64	10.0	-3.6	35.0
1,1,2-Trichloroethane	Ave	0.1429	0.1463		10.2	10.0	2.4	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.1774		37.5	40.0	-6.3	50.0
1,3-Dichloropropane	Ave	1.244	1.356		10.9	10.0	9.0	35.0
Tetrachloroethene	Ave	1.419	1.576		11.1	10.0	11.0	35.0
Chlorodibromomethane	Lin2		0.7517		9.45	10.0	-5.5	35.0
1,2-Dibromoethane	Ave	0.5838	0.5581		9.56	10.0	-4.4	35.0
1-Chlorohexane	Lin2		2.544		10.3	10.0	3.0	35.0
Chlorobenzene	Ave	4.290	4.492	0.3000	10.5	10.0	4.7	35.0
1,1,1,2-Tetrachloroethane	Ave	1.130	1.284		11.4	10.0	13.7	35.0
Ethylbenzene	Ave	2.585	2.926		11.3	10.0	13.2	20.0
m-Xylene & p-Xylene	Ave	3.066	3.452		11.3	10.0	12.6	35.0
o-Xylene	Lin2		3.198		11.1	10.0	11.5	35.0
Styrene	Ave	3.993	4.683		11.7	10.0	17.3	35.0
Bromoform	Lin2		0.3138	0.1000	9.84	10.0	-1.6	35.0
Isopropylbenzene	Lin2		5.661		10.2	10.0	2.3	35.0
Cyclohexanone	Lin2		0.0107		374	400	-6.5	50.0
1,1,2,2-Tetrachloroethane	Ave	0.4627	0.4681	0.3000	10.1	10.0	1.2	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0927	0.0896		9.67	10.0	-3.3	50.0
1,2,3-Trichloropropane	Ave	0.1248	0.1253		10.0	10.0	0.4	35.0
Bromobenzene	Ave	0.9516	1.053		11.1	10.0	10.7	35.0
N-Propylbenzene	Ave	1.608	1.767		11.0	10.0	9.9	35.0
1,3,5-Trimethylbenzene	Lin2		4.921		10.8	10.0	8.0	35.0
2-Chlorotoluene	Ave	1.186	1.380		11.6	10.0	16.3	35.0
4-Chlorotoluene	Ave	1.198	1.305		10.9	10.0	8.9	35.0
tert-Butylbenzene	Lin2		4.741		10.3	10.0	3.0	35.0
1,2,4-Trimethylbenzene	Lin2		4.837		10.4	10.0	4.1	35.0
sec-Butylbenzene	Lin2		1.365		10.4	10.0	4.2	35.0
4-Isopropyltoluene	Lin2		5.616		10.8	10.0	7.5	35.0
1,3-Dichlorobenzene	Ave	2.178	2.335		10.7	10.0	7.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420311/2 Calibration Date: 06/27/2018 18:46  
 Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28  
 Lab File ID: R2430.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	2.148	2.247		10.5	10.0	4.6	35.0
n-Butylbenzene	Lin2		5.411		10.7	10.0	7.3	35.0
1,2-Dichlorobenzene	Ave	1.681	1.786		10.6	10.0	6.2	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0429		8.54	10.0	-14.6	50.0
1,2,4-Trichlorobenzene	Lin2		0.9595		9.31	10.0	-6.9	35.0
Hexachlorobutadiene	Ave	0.8249	0.8804		10.7	10.0	6.7	35.0
Naphthalene	Lin2		1.081		8.18	10.0	-18.2	35.0
1,2,3-Trichlorobenzene	Ave	0.7684	0.7717		10.0	10.0	0.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420311/2 Calibration Date: 06/27/2018 18:46  
Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 07:34  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 09:10  
Lab File ID: R2430.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Lin1		0.2400		10.8	12.0	-9.8	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.1702		10.9	12.0	-9.4	35.0
Toluene-d8 (Surr)	Lin1		5.567		11.7	12.0	-2.4	35.0
4-Bromofluorobenzene (Surr)	Lin1		1.167		10.6	12.0	-11.8	35.0



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>MB 280-420184/8</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3655.D</u>
Analysis Method: <u>8260B</u>	Date Collected: _____
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 08:36</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420311/6  
 Matrix: Water Lab File ID: R2433.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 19:46  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420311 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.335	J	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	106		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	104		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420929/8  
 Matrix: Water Lab File ID: MS1\_3923.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/03/2018 08:35  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420929 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	94		77-120
2037-26-5	Toluene-d8 (Surr)	107		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-422211/6

Matrix: Water Lab File ID: MS9\_2550.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 07/13/2018 23:29

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 422211 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	90		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	88		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420184/4

Matrix: Water Lab File ID: MS1\_3654.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 08:16

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420184 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.64		1.0	0.16
75-34-3	1,1-Dichloroethane	5.45		1.0	0.22
75-35-4	1,1-Dichloroethene	5.51		1.0	0.23
107-06-2	1,2-Dichloroethane	5.60		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	16.1		6.0	2.0
67-64-1	Acetone	23.4		10	1.9
71-43-2	Benzene	5.48		1.0	0.16
75-00-3	Chloroethane	4.01		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.41		1.0	0.15
100-41-4	Ethylbenzene	5.14		1.0	0.16
75-09-2	Methylene Chloride	5.26		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.02		2.0	0.34
95-47-6	o-Xylene	5.01		1.0	0.19
100-42-5	Styrene	4.58		1.0	0.17
127-18-4	Tetrachloroethene	5.25		1.0	0.20
108-88-3	Toluene	5.52		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.62		1.0	0.15
79-01-6	Trichloroethene	5.37		1.0	0.16
75-01-4	Vinyl chloride	3.94		1.0	0.10
1330-20-7	Xylenes, Total	10.0		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420311/4

Matrix: Water Lab File ID: R2432.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 06/27/2018 19:27

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420311 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.50		1.0	0.16
75-34-3	1,1-Dichloroethane	4.54		1.0	0.22
75-35-4	1,1-Dichloroethene	4.38		1.0	0.23
107-06-2	1,2-Dichloroethane	4.44		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	18.0		6.0	2.0
67-64-1	Acetone	22.6		10	1.9
71-43-2	Benzene	4.42		1.0	0.16
75-00-3	Chloroethane	4.67		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.33		1.0	0.15
100-41-4	Ethylbenzene	4.72		1.0	0.16
75-09-2	Methylene Chloride	4.37		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.65		2.0	0.34
95-47-6	o-Xylene	4.62		1.0	0.19
100-42-5	Styrene	4.46		1.0	0.17
127-18-4	Tetrachloroethene	4.85		1.0	0.20
108-88-3	Toluene	4.82		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.66		1.0	0.15
79-01-6	Trichloroethene	4.02		1.0	0.16
75-01-4	Vinyl chloride	4.55		1.0	0.10
1330-20-7	Xylenes, Total	9.27		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-127
460-00-4	4-Bromofluorobenzene (Surr)	90		78-120
1868-53-7	Dibromofluoromethane (Surr)	90		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420929/4  
 Matrix: Water Lab File ID: MS1\_3922.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/03/2018 08:15  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420929 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.67		1.0	0.16
75-34-3	1,1-Dichloroethane	5.43		1.0	0.22
75-35-4	1,1-Dichloroethene	5.27		1.0	0.23
107-06-2	1,2-Dichloroethane	5.43		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	22.1		6.0	2.0
67-64-1	Acetone	23.3		10	1.9
71-43-2	Benzene	5.33		1.0	0.16
75-00-3	Chloroethane	4.79		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.11		1.0	0.15
100-41-4	Ethylbenzene	5.24		1.0	0.16
75-09-2	Methylene Chloride	4.89		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.15		2.0	0.34
95-47-6	o-Xylene	5.06		1.0	0.19
100-42-5	Styrene	4.63		1.0	0.17
127-18-4	Tetrachloroethene	5.17		1.0	0.20
108-88-3	Toluene	5.35		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.27		1.0	0.15
79-01-6	Trichloroethene	5.12		1.0	0.16
75-01-4	Vinyl chloride	4.72		1.0	0.10
1330-20-7	Xylenes, Total	10.2		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-127
460-00-4	4-Bromofluorobenzene (Surr)	105		78-120
1868-53-7	Dibromofluoromethane (Surr)	93		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-422211/4  
 Matrix: Water Lab File ID: MS9\_2549.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/13/2018 23:08  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 422211 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.25		1.0	0.16
75-34-3	1,1-Dichloroethane	4.82		1.0	0.22
75-35-4	1,1-Dichloroethene	5.09		1.0	0.23
107-06-2	1,2-Dichloroethane	5.06		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	19.1		6.0	2.0
67-64-1	Acetone	17.8		10	1.9
71-43-2	Benzene	5.01		1.0	0.16
75-00-3	Chloroethane	5.84		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.06		1.0	0.15
100-41-4	Ethylbenzene	4.88		1.0	0.16
75-09-2	Methylene Chloride	5.20		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.82		2.0	0.34
95-47-6	o-Xylene	4.79		1.0	0.19
100-42-5	Styrene	4.45		1.0	0.17
127-18-4	Tetrachloroethene	4.98		1.0	0.20
108-88-3	Toluene	5.26		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.12		1.0	0.15
79-01-6	Trichloroethene	5.26		1.0	0.16
75-01-4	Vinyl chloride	4.85		1.0	0.10
1330-20-7	Xylenes, Total	9.61		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	81		78-120
1868-53-7	Dibromofluoromethane (Surr)	90		77-120
2037-26-5	Toluene-d8 (Surr)	87		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-121 MS</u>	Lab Sample ID: <u>280-110943-3 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3661.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 10:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 10:38</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.70		1.0	0.16
75-34-3	1,1-Dichloroethane	48.9		1.0	0.22
75-35-4	1,1-Dichloroethene	9.54		1.0	0.23
107-06-2	1,2-Dichloroethane	5.60		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	21.2		6.0	2.0
67-64-1	Acetone	28.4		10	1.9
71-43-2	Benzene	7.06		1.0	0.16
75-00-3	Chloroethane	6.00		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	276		1.0	0.15
100-41-4	Ethylbenzene	4.99		1.0	0.16
75-09-2	Methylene Chloride	5.07		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.75		2.0	0.34
95-47-6	o-Xylene	4.77		1.0	0.19
100-42-5	Styrene	4.26		1.0	0.17
127-18-4	Tetrachloroethene	5.03		1.0	0.20
108-88-3	Toluene	5.45		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	6.07		1.0	0.15
79-01-6	Trichloroethene	5.28		1.0	0.16
75-01-4	Vinyl chloride	313		1.0	0.10
1330-20-7	Xylenes, Total	9.52		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	100		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-138 MS</u>	Lab Sample ID: <u>280-110943-9 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2435.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 20:27</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420311</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	41.1		1.0	0.16
75-34-3	1,1-Dichloroethane	98.8		1.0	0.22
75-35-4	1,1-Dichloroethene	4.85		1.0	0.23
107-06-2	1,2-Dichloroethane	4.70		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	19.0		6.0	2.0
67-64-1	Acetone	34.3		10	1.9
71-43-2	Benzene	5.11		1.0	0.16
75-00-3	Chloroethane	12.4		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	137		1.0	0.15
100-41-4	Ethylbenzene	5.24		1.0	0.16
75-09-2	Methylene Chloride	4.31		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.08		2.0	0.34
95-47-6	o-Xylene	6.22		1.0	0.19
100-42-5	Styrene	4.74		1.0	0.17
127-18-4	Tetrachloroethene	6.24		1.0	0.20
108-88-3	Toluene	4.98		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.64		1.0	0.15
79-01-6	Trichloroethene	5.03		1.0	0.16
75-01-4	Vinyl chloride	206		1.0	0.10
1330-20-7	Xylenes, Total	11.3		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	82		70-127
460-00-4	4-Bromofluorobenzene (Surr)	87		78-120
1868-53-7	Dibromofluoromethane (Surr)	84		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-111257-C-5 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3929.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/19/2018 18:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/03/2018 10:37</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420929</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.83		1.0	0.16
75-34-3	1,1-Dichloroethane	5.47		1.0	0.22
75-35-4	1,1-Dichloroethene	5.31		1.0	0.23
107-06-2	1,2-Dichloroethane	6.23		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	24.4		6.0	2.0
67-64-1	Acetone	32.7		10	1.9
71-43-2	Benzene	5.32		1.0	0.16
75-00-3	Chloroethane	4.89		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.32		1.0	0.15
100-41-4	Ethylbenzene	5.14		1.0	0.16
75-09-2	Methylene Chloride	4.99		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.90		2.0	0.34
95-47-6	o-Xylene	4.92		1.0	0.19
100-42-5	Styrene	4.49		1.0	0.17
127-18-4	Tetrachloroethene	5.14		1.0	0.20
108-88-3	Toluene	5.35		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.39		1.0	0.15
79-01-6	Trichloroethene	5.07		1.0	0.16
75-01-4	Vinyl chloride	4.98		1.0	0.10
1330-20-7	Xylenes, Total	9.82		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>550-105667-C-1 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2552.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/09/2018 18:29</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/14/2018 00:12</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422211</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.25		1.0	0.16
75-34-3	1,1-Dichloroethane	4.85		1.0	0.22
75-35-4	1,1-Dichloroethene	5.07		1.0	0.23
107-06-2	1,2-Dichloroethane	5.05		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	22.5		6.0	2.0
67-64-1	Acetone	33.8		10	1.9
71-43-2	Benzene	4.91		1.0	0.16
75-00-3	Chloroethane	5.93		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.06		1.0	0.15
100-41-4	Ethylbenzene	4.84		1.0	0.16
75-09-2	Methylene Chloride	4.84		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.77		2.0	0.34
95-47-6	o-Xylene	4.67		1.0	0.19
100-42-5	Styrene	4.41		1.0	0.17
127-18-4	Tetrachloroethene	4.86		1.0	0.20
108-88-3	Toluene	5.15		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.10		1.0	0.15
79-01-6	Trichloroethene	5.13		1.0	0.16
75-01-4	Vinyl chloride	5.02		1.0	0.10
1330-20-7	Xylenes, Total	9.44		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	88		78-120
1868-53-7	Dibromofluoromethane (Surr)	92		77-120
2037-26-5	Toluene-d8 (Surr)	86		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-121 MSD</u>	Lab Sample ID: <u>280-110943-3 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3662.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 10:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 10:59</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420184</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	6.08		1.0	0.16
75-34-3	1,1-Dichloroethane	53.0		1.0	0.22
75-35-4	1,1-Dichloroethene	10.5		1.0	0.23
107-06-2	1,2-Dichloroethane	6.02		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	23.6		6.0	2.0
67-64-1	Acetone	27.4		10	1.9
71-43-2	Benzene	7.17		1.0	0.16
75-00-3	Chloroethane	6.43		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	295		1.0	0.15
100-41-4	Ethylbenzene	5.36		1.0	0.16
75-09-2	Methylene Chloride	5.39		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.18		2.0	0.34
95-47-6	o-Xylene	5.18		1.0	0.19
100-42-5	Styrene	4.65		1.0	0.17
127-18-4	Tetrachloroethene	5.46		1.0	0.20
108-88-3	Toluene	5.83		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	6.57		1.0	0.15
79-01-6	Trichloroethene	5.76		1.0	0.16
75-01-4	Vinyl chloride	316		1.0	0.10
1330-20-7	Xylenes, Total	10.4		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-127
460-00-4	4-Bromofluorobenzene (Surr)	99		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-138 MSD</u>	Lab Sample ID: <u>280-110943-9 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2436.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/13/2018 14:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/27/2018 20:46</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420311</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	37.8		1.0	0.16
75-34-3	1,1-Dichloroethane	92.6		1.0	0.22
75-35-4	1,1-Dichloroethene	4.80		1.0	0.23
107-06-2	1,2-Dichloroethane	4.98		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	17.4		6.0	2.0
67-64-1	Acetone	39.0		10	1.9
71-43-2	Benzene	5.01		1.0	0.16
75-00-3	Chloroethane	11.6		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	130		1.0	0.15
100-41-4	Ethylbenzene	5.05		1.0	0.16
75-09-2	Methylene Chloride	4.50		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.95		2.0	0.34
95-47-6	o-Xylene	6.10		1.0	0.19
100-42-5	Styrene	4.80		1.0	0.17
127-18-4	Tetrachloroethene	5.86		1.0	0.20
108-88-3	Toluene	4.91		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.48		1.0	0.15
79-01-6	Trichloroethene	4.92		1.0	0.16
75-01-4	Vinyl chloride	186		1.0	0.10
1330-20-7	Xylenes, Total	11.1		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	85		70-127
460-00-4	4-Bromofluorobenzene (Surr)	85		78-120
1868-53-7	Dibromofluoromethane (Surr)	86		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-111257-A-5 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_3930.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/19/2018 18:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/03/2018 10:58</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420929</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.79		1.0	0.16
75-34-3	1,1-Dichloroethane	5.54		1.0	0.22
75-35-4	1,1-Dichloroethene	5.25		1.0	0.23
107-06-2	1,2-Dichloroethane	6.17		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	26.2		6.0	2.0
67-64-1	Acetone	32.4		10	1.9
71-43-2	Benzene	5.41		1.0	0.16
75-00-3	Chloroethane	5.00		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.37		1.0	0.15
100-41-4	Ethylbenzene	5.27		1.0	0.16
75-09-2	Methylene Chloride	5.08		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.08		2.0	0.34
95-47-6	o-Xylene	5.05		1.0	0.19
100-42-5	Styrene	4.62		1.0	0.17
127-18-4	Tetrachloroethene	5.22		1.0	0.20
108-88-3	Toluene	5.36		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.37		1.0	0.15
79-01-6	Trichloroethene	5.14		1.0	0.16
75-01-4	Vinyl chloride	4.98		1.0	0.10
1330-20-7	Xylenes, Total	10.1		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
460-00-4	4-Bromofluorobenzene (Surr)	101		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-110943-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>550-105667-C-1 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2553.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/09/2018 18:29</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/14/2018 00:33</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422211</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.32		1.0	0.16
75-34-3	1,1-Dichloroethane	4.85		1.0	0.22
75-35-4	1,1-Dichloroethene	5.15		1.0	0.23
107-06-2	1,2-Dichloroethane	5.16		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	22.2		6.0	2.0
67-64-1	Acetone	35.2		10	1.9
71-43-2	Benzene	4.90		1.0	0.16
75-00-3	Chloroethane	5.79		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.14		1.0	0.15
100-41-4	Ethylbenzene	4.72		1.0	0.16
75-09-2	Methylene Chloride	4.92		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.70		2.0	0.34
95-47-6	o-Xylene	4.77		1.0	0.19
100-42-5	Styrene	4.52		1.0	0.17
127-18-4	Tetrachloroethene	4.91		1.0	0.20
108-88-3	Toluene	4.99		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.98		1.0	0.15
79-01-6	Trichloroethene	5.01		1.0	0.16
75-01-4	Vinyl chloride	4.87		1.0	0.10
1330-20-7	Xylenes, Total	9.47		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	86		78-120
1868-53-7	Dibromofluoromethane (Surr)	91		77-120
2037-26-5	Toluene-d8 (Surr)	87		80-125



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1Start Date: 05/05/2018 08:31Analysis Batch Number: 413853End Date: 05/05/2018 20:16

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-413853/1		05/05/2018 08:31	1	MS1_1617.D	DB-624 (60.25) 0.25 (mm)
STD003 280-413853/10 IC		05/05/2018 10:19	1		DB-624 (60.25) 0.25 (mm)
STD01 280-413853/11 IC		05/05/2018 10:39	1		DB-624 (60.25) 0.25 (mm)
STD02 280-413853/12 IC		05/05/2018 11:00	1		DB-624 (60.25) 0.25 (mm)
STD05 280-413853/13 IC		05/05/2018 11:20	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-413853/14		05/05/2018 11:41	1		DB-624 (60.25) 0.25 (mm)
STD30 280-413853/15 IC		05/05/2018 12:01	1		DB-624 (60.25) 0.25 (mm)
STD60 280-413853/16 IC		05/05/2018 12:22	1		DB-624 (60.25) 0.25 (mm)
ICV 280-413853/17		05/05/2018 13:03	1		DB-624 (60.25) 0.25 (mm)
STD01 280-413853/18 IC		05/05/2018 13:23	1	MS1_1629.D	DB-624 (60.25) 0.25 (mm)
STD02 280-413853/19 IC		05/05/2018 13:43	1	MS1_1630.D	DB-624 (60.25) 0.25 (mm)
STD05 280-413853/20 IC		05/05/2018 14:04	1	MS1_1631.D	DB-624 (60.25) 0.25 (mm)
ICIS 280-413853/21		05/05/2018 14:24	1	MS1_1632.D	DB-624 (60.25) 0.25 (mm)
STD30 280-413853/22 IC		05/05/2018 14:45	1	MS1_1633.D	DB-624 (60.25) 0.25 (mm)
STD60 280-413853/23 IC		05/05/2018 15:05	1	MS1_1634.D	DB-624 (60.25) 0.25 (mm)
ICV 280-413853/24		05/05/2018 15:46	1	MS1_1636.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 16:11	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 16:31	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 16:52	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 17:12	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 17:33	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 17:53	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 18:14	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 18:34	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 18:54	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 19:15	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 19:35	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 19:55	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		05/05/2018 20:16	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Start Date: 06/11/2018 09:54Analysis Batch Number: 418017 End Date: 06/11/2018 15:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-418017/1		06/11/2018 09:54	1	MS1_3156.D	DB-624 (60.25) 0.25 (mm)
STD003 280-418017/12 IC		06/11/2018 12:30	1	MS1_3162.D	DB-624 (60.25) 0.25 (mm)
STD01 280-418017/13 IC		06/11/2018 12:50	1	MS1_3163.D	DB-624 (60.25) 0.25 (mm)
STD02 280-418017/14 IC		06/11/2018 13:11	1	MS1_3164.D	DB-624 (60.25) 0.25 (mm)
STD05 280-418017/15 IC		06/11/2018 13:32	1	MS1_3165.D	DB-624 (60.25) 0.25 (mm)
ICIS 280-418017/16		06/11/2018 13:52	1	MS1_3166.D	DB-624 (60.25) 0.25 (mm)
STD30 280-418017/17 IC		06/11/2018 14:13	1	MS1_3167.D	DB-624 (60.25) 0.25 (mm)
STD60 280-418017/18 IC		06/11/2018 14:33	1	MS1_3168.D	DB-624 (60.25) 0.25 (mm)
ICV 280-418017/19		06/11/2018 15:14	1	MS1_3170.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1Start Date: 06/27/2018 06:48Analysis Batch Number: 420184End Date: 06/27/2018 18:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420184/1		06/27/2018 06:48	1	MS1_3650.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420184/2		06/27/2018 07:35	1	MS1_3652.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420184/3		06/27/2018 07:55	1	MS1_3653.D	DB-624 (60.25) 0.25 (mm)
LCS 280-420184/4		06/27/2018 08:16	1	MS1_3654.D	DB-624 (60.25) 0.25 (mm)
MB 280-420184/8		06/27/2018 08:36	1	MS1_3655.D	DB-624 (60.25) 0.25 (mm)
280-110943-20		06/27/2018 08:56	1	MS1_3656.D	DB-624 (60.25) 0.25 (mm)
280-110943-21		06/27/2018 09:17	1	MS1_3657.D	DB-624 (60.25) 0.25 (mm)
280-110943-22		06/27/2018 09:37	1	MS1_3658.D	DB-624 (60.25) 0.25 (mm)
280-110943-3		06/27/2018 09:58	1	MS1_3659.D	DB-624 (60.25) 0.25 (mm)
280-110943-3 DL		06/27/2018 10:18	10	MS1_3660.D	DB-624 (60.25) 0.25 (mm)
280-110943-3 MS		06/27/2018 10:38	1	MS1_3661.D	DB-624 (60.25) 0.25 (mm)
280-110943-3 MSD		06/27/2018 10:59	1	MS1_3662.D	DB-624 (60.25) 0.25 (mm)
280-110943-1		06/27/2018 11:19	1	MS1_3663.D	DB-624 (60.25) 0.25 (mm)
280-110943-1 DL		06/27/2018 11:40	10	MS1_3664.D	DB-624 (60.25) 0.25 (mm)
280-110943-2		06/27/2018 12:00	200	MS1_3665.D	DB-624 (60.25) 0.25 (mm)
280-110943-2 DL		06/27/2018 12:39	2000	MS1_3666.D	DB-624 (60.25) 0.25 (mm)
280-110943-4		06/27/2018 13:00	1	MS1_3667.D	DB-624 (60.25) 0.25 (mm)
280-110943-4 DL		06/27/2018 13:20	4	MS1_3668.D	DB-624 (60.25) 0.25 (mm)
280-110943-5		06/27/2018 13:41	1	MS1_3669.D	DB-624 (60.25) 0.25 (mm)
280-110943-6		06/27/2018 14:01	10	MS1_3670.D	DB-624 (60.25) 0.25 (mm)
280-110943-6 DL		06/27/2018 14:22	100	MS1_3671.D	DB-624 (60.25) 0.25 (mm)
280-110943-7		06/27/2018 14:42	10	MS1_3672.D	DB-624 (60.25) 0.25 (mm)
280-110943-7 DL		06/27/2018 15:03	100	MS1_3673.D	DB-624 (60.25) 0.25 (mm)
280-110943-8		06/27/2018 15:24	10	MS1_3674.D	DB-624 (60.25) 0.25 (mm)
280-110943-8 DL		06/27/2018 15:44	100	MS1_3675.D	DB-624 (60.25) 0.25 (mm)
280-110943-10		06/27/2018 16:05	10	MS1_3676.D	DB-624 (60.25) 0.25 (mm)
280-110943-10 DL		06/27/2018 16:25	100	MS1_3677.D	DB-624 (60.25) 0.25 (mm)
280-110943-12		06/27/2018 17:12	1	MS1_3678.D	DB-624 (60.25) 0.25 (mm)
280-110943-13		06/27/2018 17:32	1	MS1_3679.D	DB-624 (60.25) 0.25 (mm)
280-110943-14		06/27/2018 17:53	1	MS1_3680.D	DB-624 (60.25) 0.25 (mm)
280-110943-15		06/27/2018 18:13	500	MS1_3681.D	DB-624 (60.25) 0.25 (mm)
280-110943-15 DL		06/27/2018 18:34	5000	MS1_3682.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1Start Date: 07/03/2018 06:45Analysis Batch Number: 420929End Date: 07/03/2018 16:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420929/1		07/03/2018 06:45	1	MS1_3918.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420929/2		07/03/2018 07:35	1	MS1_3920.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420929/3		07/03/2018 07:55	1	MS1_3921.D	DB-624 (60.25) 0.25 (mm)
LCS 280-420929/4		07/03/2018 08:15	1	MS1_3922.D	DB-624 (60.25) 0.25 (mm)
MB 280-420929/8		07/03/2018 08:35	1	MS1_3923.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 08:56	50		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 09:16	5		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 09:36	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 09:57	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 10:17	1		DB-624 (60.25) 0.25 (mm)
280-111257-C-5 MS		07/03/2018 10:37	1	MS1_3929.D	DB-624 (60.25) 0.25 (mm)
280-111257-A-5 MSD		07/03/2018 10:58	1	MS1_3930.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 11:18	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 11:38	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 11:59	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 12:19	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 12:40	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 13:00	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 13:20	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 13:41	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 14:01	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 14:22	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 14:42	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 15:02	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 15:23	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 15:43	1		DB-624 (60.25) 0.25 (mm)
280-110943-16		07/03/2018 16:04	1	MS1_3945.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 16:24	4		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/03/2018 16:44	4		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 07/08/2018 14:21Analysis Batch Number: 421403End Date: 07/08/2018 19:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD60 280-421403/16 IC		07/08/2018 14:21	1	MS9_2362.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 14:21	1		RTX-624 0.53 (mm)
STD30 280-421403/15 IC		07/08/2018 14:42	1	MS9_2363.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 14:42	1		RTX-624 0.53 (mm)
STD10 280-421403/14 IC		07/08/2018 15:03	1	MS9_2364.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 15:03	1		RTX-624 0.53 (mm)
STD5 280-421403/13 IC		07/08/2018 15:24	1	MS9_2365.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 15:24	1		RTX-624 0.53 (mm)
STD2 280-421403/12 IC		07/08/2018 15:45	1	MS9_2366.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 15:45	1		RTX-624 0.53 (mm)
STD1 280-421403/11 IC		07/08/2018 16:06	1	MS9_2367.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 16:06	1		RTX-624 0.53 (mm)
STD03 280-421403/10 IC		07/08/2018 16:27	1	MS9_2368.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 16:27	1		RTX-624 0.53 (mm)
ICV 280-421403/17		07/08/2018 16:48	1	MS9_2369.D	RTX-624 0.53 (mm)
STD60 280-421403/29 IC		07/08/2018 17:09	1	MS9_2370.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 17:09	1		RTX-624 0.53 (mm)
STD30 280-421403/28 IC		07/08/2018 17:30	1	MS9_2371.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 17:30	1		RTX-624 0.53 (mm)
ICIS 280-421403/27		07/08/2018 17:51	1	MS9_2372.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 17:51	1		RTX-624 0.53 (mm)
STD5 280-421403/26 IC		07/08/2018 18:11	1	MS9_2373.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 18:11	1		RTX-624 0.53 (mm)
STD2 280-421403/25 IC		07/08/2018 18:32	1	MS9_2374.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 18:32	1		RTX-624 0.53 (mm)
STD1 280-421403/24 IC		07/08/2018 18:53	1	MS9_2375.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 18:53	1		RTX-624 0.53 (mm)
ICV 280-421403/30		07/08/2018 19:14	1	MS9_2376.D	RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 07/13/2018 21:41Analysis Batch Number: 422211End Date: 07/14/2018 06:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422211/1		07/13/2018 21:41	1	MS9_2545.D	RTX-624 0.53 (mm)
CCV 280-422211/2		07/13/2018 22:22	1	MS9_2547.D	RTX-624 0.53 (mm)
CCV 280-422211/3		07/13/2018 22:42	1	MS9_2548.D	RTX-624 0.53 (mm)
LCS 280-422211/4		07/13/2018 23:08	1	MS9_2549.D	RTX-624 0.53 (mm)
MB 280-422211/6		07/13/2018 23:29	1	MS9_2550.D	RTX-624 0.53 (mm)
ZZZZZ		07/13/2018 23:51	1		RTX-624 0.53 (mm)
550-105667-C-1 MS		07/14/2018 00:12	1	MS9_2552.D	RTX-624 0.53 (mm)
550-105667-C-1 MSD		07/14/2018 00:33	1	MS9_2553.D	RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 00:54	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 01:15	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 01:36	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 01:57	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 02:17	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 02:38	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 02:59	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 03:20	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 03:41	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 04:02	1		RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 04:22	1		RTX-624 0.53 (mm)
280-110943-17		07/14/2018 04:43	400	MS9_2565.D	RTX-624 0.53 (mm)
280-110943-17 DL		07/14/2018 05:04	4000	MS9_2566.D	RTX-624 0.53 (mm)
280-110943-18		07/14/2018 05:25	400	MS9_2567.D	RTX-624 0.53 (mm)
280-110943-18 DL		07/14/2018 05:46	4000	MS9_2568.D	RTX-624 0.53 (mm)
280-110943-19		07/14/2018 06:06	1	MS9_2569.D	RTX-624 0.53 (mm)
ZZZZZ		07/14/2018 06:27	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1Start Date: 06/20/2018 23:30Analysis Batch Number: 419367End Date: 06/21/2018 09:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-419367/1		06/20/2018 23:30	1	R2068.D	DB-624 (60.25) 0.25 (mm)
STD60 280-419367/10 IC		06/21/2018 00:33	1	R2071.D	DB-624 (60.25) 0.25 (mm)
STD30 280-419367/11 IC		06/21/2018 00:52	1	R2072.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 00:52	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419367/12 IC		06/21/2018 01:11	1	R2073.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 01:11	1		DB-624 (60.25) 0.25 (mm)
STD5 280-419367/13 IC		06/21/2018 01:30	1	R2074.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 01:30	1		DB-624 (60.25) 0.25 (mm)
STD2 280-419367/14 IC		06/21/2018 01:49	1	R2075.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 01:49	1		DB-624 (60.25) 0.25 (mm)
STD1 280-419367/15 IC		06/21/2018 02:08	1	R2076.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 02:08	1		DB-624 (60.25) 0.25 (mm)
STD03 280-419367/16 IC		06/21/2018 02:28	1	R2077.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 02:28	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419367/17		06/21/2018 02:47	1	R2078.D	DB-624 (60.25) 0.25 (mm)
280-111102-A-1 MDLV		06/21/2018 05:58	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-2 MDLV		06/21/2018 06:17	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-3 MDLV		06/21/2018 06:36	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-4 MDLV		06/21/2018 06:55	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-5 MDLV		06/21/2018 07:14	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/18 IC		06/21/2018 07:34	1	R2085.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 07:34	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/19 IC		06/21/2018 07:53	1	R2086.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 07:53	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/20 IC		06/21/2018 08:12	1	R2087.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 08:12	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-419367/21		06/21/2018 08:32	1	R2088.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 08:32	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/22 IC		06/21/2018 08:51	1	R2089.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 08:51	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/23 IC		06/21/2018 09:10	1	R2090.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 09:10	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419367/24		06/21/2018 09:29	1	R2091.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1Start Date: 06/27/2018 18:24Analysis Batch Number: 420311End Date: 06/28/2018 02:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420311/1		06/27/2018 18:24	1	R2429.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420311/2		06/27/2018 18:46	1	R2430.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420311/3		06/27/2018 19:05	1	R2431.D	DB-624 (60.25) 0.25 (mm)
LCS 280-420311/4		06/27/2018 19:27	1	R2432.D	DB-624 (60.25) 0.25 (mm)
MB 280-420311/6		06/27/2018 19:46	1	R2433.D	DB-624 (60.25) 0.25 (mm)
280-110943-9		06/27/2018 20:06	1	R2434.D	DB-624 (60.25) 0.25 (mm)
280-110943-9 MS		06/27/2018 20:27	1	R2435.D	DB-624 (60.25) 0.25 (mm)
280-110943-9 MSD		06/27/2018 20:46	1	R2436.D	DB-624 (60.25) 0.25 (mm)
280-110943-9 DL		06/27/2018 21:05	4	R2437.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 21:25	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 21:44	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 22:03	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 22:23	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 22:42	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 23:01	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 23:20	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 23:40	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/27/2018 23:59	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 00:18	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 00:37	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 00:57	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 01:16	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 01:35	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 01:54	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 02:13	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 02:32	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 02:52	1		DB-624 (60.25) 0.25 (mm)



Sequence Name: C:\msdchem\1\sequence\062718am.s

Comment:

Operator: wickhamt

Data Path: C:\MSDCHEM\1\DATA\062718am\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MS1  
DV-MS-0010 (82605/624) (Circle)  
Purge Volume: 20m / 5mL / 5g  
(Circle)

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

Sequence Barcode Options Time: 06:48-18:34

(X) On Mismatch, Inject Anyway 420184

( ) On Mismatch, Don't Inject

( ) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample 100	MS1_3649 BFB bfb
2) Sample 100	MS1_3650 BFB bfb 06:48
3) Sample 10	MS1_3651 8260 blank
4) Sample 11	MS1_3652 8260 ccv m
5) Sample 12	MS1_3653 8260 ccv s
6) Sample 13	MS1_3654 8260 lcs af
7) Sample 14	MS1_3655 8260 mb af
8) Sample 15	MS1_3656 8260 280-110943-B-20 20ml ph<2
9) Sample 16	MS1_3657 8260 280-110943-B-21 20ml ph<2
10) Sample 17	MS1_3658 8260 280-110943-B-22 20ml ph<2
11) Sample 18	MS1_3659 8260 280-110943-F-3 20ml ph<2 E
12) Sample 19	MS1_3660 8260 280-110943-F-3 2ml ph<2
13) Sample 20	MS1_3661 8260 280-110943-D-3 MS 20ml ph<2 E
14) Sample 21	MS1_3662 8260 280-110943-F-3 MSD 20ml ph<2 E
15) Sample 22	MS1_3663 8260 280-110943-C-1 20ml ph<2 af E
16) Sample 23	MS1_3664 8260 280-110943-C-1 2ml ph<2
17) Sample 24	MS1_3665 8260 280-110943-E-2 0.1ml ph<2 E
18) Sample 25	MS1_3666 8260 280-110943-E-2 0.01ml ph<2
19) Sample 26	MS1_3667 8260 280-110943-E-4 20ml ph<2 af E
20) Sample 27	MS1_3668 8260 280-110943-E-4 5ml ph<2
21) Sample 28	MS1_3669 8260 280-110943-E-5 20ml ph<2
22) Sample 29	MS1_3670 8260 280-110943-C-6 2ml ph<2 E
23) Sample 30	MS1_3671 8260 280-110943-C-6 0.2ml ph<2
24) Sample 31	MS1_3672 8260 280-110943-C-7 2ml ph<2 E
25) Sample 32	MS1_3673 8260 280-110943-C-7 0.2ml ph<2
26) Sample 33	MS1_3674 8260 280-110943-C-8 2ml ph<2 E
27) Sample 34	MS1_3675 8260 280-110943-C-8 0.2ml ph<2
28) Sample 35	MS1_3676 8260 280-110943-E-10 2ml ph<2 E
29) Sample 36	MS1_3677 8260 280-110943-E-10 0.2ml ph<2
30) Sample 37	MS1_3678 8260 280-110943-F-12 20ml ph<2
31) Sample 38	MS1_3679 8260 280-110943-E-13 20ml ph<2
32) Sample 39	MS1_3680 8260 280-110943-E-14 20ml ph<2
33) Sample 40	MS1_3681 8260 280-110943-E-15 0.04ml ph<2 E
34) Sample 41	MS1_3682 8260 280-110943-E-15 0.004ml ph<2 18:34
35) Sample 42	MS1_3683 8260 280-110943-C-16 20ml ph<2 18:54
36) Sample 43	MS1_3684 8260 280-110943-C-16 10ml ph<2 19:15

6-28-18  
TAN

DNR, off 12-hr tune,  
RR on tune



















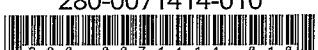

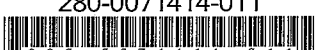







TestAmerica Laboratories  
Worklist Report















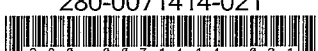



















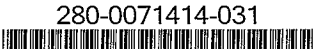

Worklist Name: 062718am  
 Instrument Name: VMS\_MS1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180627-71414.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS1  
 Run Reagent: MV-568718-D\_00008  
 Run Reagent: MV-ARCH SS A\_00098

Worklist Number: 71414  
 Chrom Method: AQ\_VMS1\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 1.080, Units: uL

















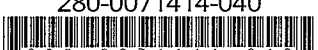



Page 384 of 632

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071414-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071414-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Gas/Ket A_00073 MV-Main A_00036	CCV	voaWater	20.00	mL	1.000
280-0071414-003 	# 3 CCV 	MV-Supp A_00029 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071414-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCS	voaWater	20.00	mL	1.000
280-0071414-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCSD	voaWater	20.00	mL	1.000
280-0071414-006 	# 6 LCS 	MV-Supp B_00020	LCS	voaWater	20.00	mL	1.000
280-0071414-007 	# 7 lcsd 	MV-Supp B_00020	LCSD	voaWater	20.00	mL	1.000
280-0071414-008 	# 8 MB 		MB	voaWater	20.00	mL	1.000
280-0071414-009 	# 9 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071414-010 	#10 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071414-011 	#11 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071414-012 	#12 280-110943-B-20 		Client	voaWater	20.00	mL	1.000
280-0071414-013 	#13 280-110943-B-21 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071414-014 	#14 280-110943-B-22 		Client	voaWater	20.00	mL	1.000
280-0071414-015 	#15 280-110943-F-3 		Client	voaWater	20.00	mL	1.000
280-0071414-016 	#16 280-110943-F-3 		Client	voaWater	20.00	mL	10.00
280-0071414-017 	#17 280-110943-D-3 MS 	MV-Main B_00021 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	MS	voaWater	20.00	mL	1.000
280-0071414-018 	#18 280-110943-F-3 MSD 	MV-Main B_00021 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	MSD	voaWater	20.00	mL	1.000
280-0071414-019 	#19 280-110943-C-1 		Client	voaWater	20.00	mL	1.000
280-0071414-020 	#20 280-110943-C-1 		Client	voaWater	20.00	mL	10.00
280-0071414-021 	#21 280-110943-E-2 		Client	voaWater	20.00	mL	200.0
280-0071414-022 	#22 280-110943-E-2 		Client	voaWater	20.00	mL	2000.0
280-0071414-023 	#23 280-110943-E-4 		Client	voaWater	20.00	mL	1.000
280-0071414-024 	#24 280-110943-E-4 		Client	voaWater	20.00	mL	4.000
280-0071414-025 	#25 280-110943-E-5 		Client	voaWater	20.00	mL	1.000
280-0071414-026 	#26 280-110943-C-6 		Client	voaWater	20.00	mL	10.00
280-0071414-027 	#27 280-110943-C-6 		Client	voaWater	20.00	mL	100.0
280-0071414-028 	#28 280-110943-C-7 		Client	voaWater	20.00	mL	10.00
280-0071414-029 	#29 280-110943-C-7 		Client	voaWater	20.00	mL	100.0
280-0071414-030 	#30 280-110943-C-8 		Client	voaWater	20.00	mL	10.00
280-0071414-031 	#31 280-110943-C-8 		Client	voaWater	20.00	mL	100.0



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071414-032 	#32 280-110943-E-10 		Client	voaWater	20.00	mL	10.00
280-0071414-033 	#33 280-110943-E-10 		Client	voaWater	20.00	mL	100.0
280-0071414-034 	#34 280-110943-F-12 		Client	voaWater	20.00	mL	1.000
280-0071414-035 	#35 280-110943-E-13 		Client	voaWater	20.00	mL	1.000
280-0071414-036 	#36 280-110943-E-14 		Client	voaWater	20.00	mL	1.000
280-0071414-037 	#37 280-110943-E-15 		Client	voaWater	20.00	mL	500.0
280-0071414-038 	#38 280-110943-E-15 		Client	voaWater	20.00	mL	5000.0
280-0071414-039 	#39 280-110943-C-16 		Client	voaWater	20.00	mL	1.000
280-0071414-040 	#40 280-110943-C-16 		Client	voaWater	20.00	mL	2.000
280-0071414-041 	#41 Samp 41 		Client	voaWater	20.00	mL	1.000



7:58AM

**Sample Request Form: 48616**

Page 1 of 3

den\_msvoa\_totalbacklog 6/27/2018 7:58:19 AM Assigned to:Wickham, Tom A

6-27-18  
Tanner

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-110943-1 2012	AFDV-104 (HS) 20 = 1 mL at pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	213 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-2 0.1/0.01	AFDV-111 (HS) pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	213 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-3 20/2	AFDV-121 (HS) pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & GC-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-3MS 20	AFDV-121 (HS) pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & GC-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-3MSD 20	AFDV-121 (HS) pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & 213 & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-4 2015	AFDV-130 (HS) 20 = 5 mL at pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	GC-Strge & 213 & MS-Strge & GC-Use	Unconfirmed
M DIL2/Use DF										
280-110943-5 20	AFDV-144 pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & GC-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-6 210.2	AFDV-114 (HS) pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-7 210.2	AFDV-140 (HS) pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-8 210.2	AFDV-115 pH 2		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & 213	Unconfirmed
M DIL2/Use DF										



6/27/2018  
7:58AM

**Sample Request Form: 48616**

den\_msvoa\_totalbacklog 6/27/2018 7:58:19 AM Assigned to:Wickham, Tom A

6-27-18  
Tlw

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-110943-10 210.2	AFDV-107 (HS)	ph <sup>42</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-12 20	AFDV-109 (HS)	ph <sup>42</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & GC-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-13 20	AFDV-101 (HS)	ph <sup>42</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & GC-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-14 20	AFDV-117 (HS)	ph <sup>42</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	GC-Use & 213 & MS-Strge & GC-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-15 0.04/0.004	AFDV-113	ph <sup>42</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	213 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-16 20/10	AFDV-139 (HS)	ph <sup>42</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge & 213	Unconfirmed
M DIL2/Use DF										
280-110943-17 0.04/0.004	AFDV-141 (HS)		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	213 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-18 0.05/0.005	AFDV-142		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	213 & MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-19 20	AFDV-105 (HS)		8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-20 20	AFDV-149 (HS)	ph <sup>42</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										



6/27/2018  
7:58AM

Sample Request Form: 48616

Page 3 of 3

den\_msvoa\_totalbacklog 6/27/2018 7:58:19 AM Assigned to:Wickham, Tom A

6-27-18  
Thu

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-110943-21 20	AFDV-150	ph <sup>2</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-110943-22 20	AFDV-151	ph <sup>2</sup>	8260B	8260B	06/27 23:59	07/02/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										



Sequence Name: C:\msdchem\1\sequence\062718PM.s

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\062718PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: A1  
DV-MS-0010 (2608/624) (Circle)

Purge Volume: (20mL/5mL/5g) (Circle)

Tune Time: 1824-252

Line Date: 420311

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

Sequence Barcode Options

( ) On Mismatch, Inject Anyway

( ) On Mismatch, Don't Inject

(X) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample	100 R2427 BFB BFB
2) Sample	100 R2428 BFB BFB
3) Sample	10 R2429 BFB BFB
4) Sample	11 R2430 8260 CCV M
5) Sample	12 R2431 8260 CCV S
6) Sample	13 R2432 8260 LCS
7) Sample	14 R2433 8260 MB
8) Sample	15 R2434 8260 280-110943-d-9 PH<2
9) Sample	16 R2435 8260 280-110943-d-9 ms PH<2 HS
10) Sample	17 R2436 8260 280-110943-d-9 msD PH<2 HS
11) Sample	18 R2437 8260 280-110943-d-9 PH<2 4X HS
12) Sample	19 R2438 8260 280-110941-e-1 PH<2
13) Sample	20 R2439 8260 280-110941-e-2 PH<2
14) Sample	21 R2440 8260 280-110941-e-3 PH<2
15) Sample	22 R2441 8260 280-110941-e-4 PH<2
16) Sample	23 R2442 8260 280-110941-d-5 PH<2
17) Sample	24 R2443 8260 280-110941-e-6 PH<2
18) Sample	25 R2444 8260 280-110941-f-7 PH<2
19) Sample	26 R2445 8260 280-110941-c-9 PH<2
20) Sample	27 R2446 8260 280-111063-a-1 PH<2
21) Sample	28 R2447 8260 280-111063-f-2 PH<2 HS
22) Sample	29 R2448 8260 280-111063-f-3 PH<2
23) Sample	30 R2449 8260 280-111063-f-4 PH<2
24) Sample	31 R2450 8260 280-111063-h-5 PH=5*
25) Sample	32 R2451 8260 280-111063-h-7 PH<2
26) Sample	33 R2452 8260 280-111063-a-8 PH<2
27) Sample	34 R2453 8260 280-111063-a-9 PH<2
28) Sample	35 R2454 8260 280-111064-h-1 PH=7*
29) Sample	36 R2455 8260 280-111064-a-2 PH<2
30) Sample	37 R2456 8260 <del>PH&lt;2</del>
31) Sample	38 R2457 8260 <del>PH&lt;2</del>

6/28/14  
D



















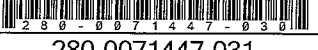



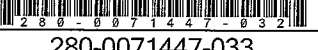
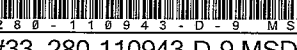
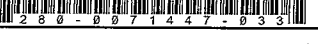
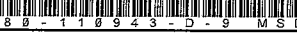


TestAmerica Laboratories  
Worklist Report









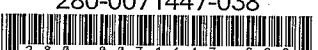










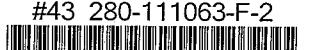





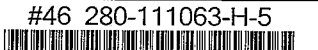

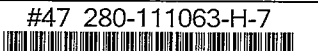
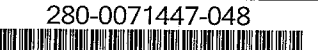
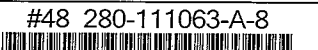

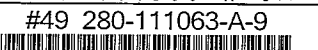

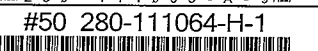

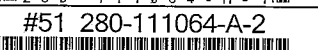
Worklist Name: 062718pm  
 Instrument Name: VMS\_R1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_R1\20180627-71447.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_R1  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00098

Worklist Number: 71447  
 Chrom Method: AQ\_VMSR1\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.960, Units: uL

Page 391 of 632

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071447-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071447-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00074	CCV	voaWater	20.00	mL	1.000
280-0071447-003 	# 3 CCV 	MV-Supp A_00030 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0071447-004 	# 4 LCS 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCS	voaWater	20.00	mL	1.000
280-0071447-005 	# 5 LCSD 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCSD	voaWater	20.00	mL	1.000
280-0071447-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0071447-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071447-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071447-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071447-030 	#30 280-110943-D-9 		Client	voaWater	20.00	mL	1.000
280-0071447-031 	#31 280-110943-D-9 		Client	voaWater	20.00	mL	4.000
280-0071447-032 	#32 280-110943-D-9 MSD 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	MS	voaWater	20.00	mL	1.000
280-0071447-033 	#33 280-110943-D-9 MSD 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	MSD	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071447-034 	#34 280-110941-E-1 		Client	voaWater	20.00	mL	1.000
280-0071447-035 	#35 280-110941-E-2 		Client	voaWater	20.00	mL	1.000
280-0071447-036 	#36 280-110941-E-3 		Client	voaWater	20.00	mL	1.000
280-0071447-037 	#37 280-110941-E-4 		Client	voaWater	20.00	mL	1.000
280-0071447-038 	#38 280-110941-D-5 		Client	voaWater	20.00	mL	1.000
280-0071447-039 	#39 280-110941-E-6 		Client	voaWater	20.00	mL	1.000
280-0071447-040 	#40 280-110941-F-7 		Client	voaWater	20.00	mL	1.000
280-0071447-041 	#41 280-110941-C-9 		Client	voaWater	20.00	mL	1.000
280-0071447-042 	#42 280-111063-A-1 		Client	voaWater	20.00	mL	1.000
280-0071447-043 	#43 280-111063-F-2 		Client	voaWater	20.00	mL	1.000
280-0071447-044 	#44 280-111063-F-3 		Client	voaWater	20.00	mL	1.000
280-0071447-045 	#45 280-111063-F-4 		Client	voaWater	20.00	mL	1.000
280-0071447-046 	#46 280-111063-H-5 		Client	voaWater	20.00	mL	1.000
280-0071447-047 	#47 280-111063-H-7 		Client	voaWater	20.00	mL	1.000
280-0071447-048 	#48 280-111063-A-8 		Client	voaWater	20.00	mL	1.000
280-0071447-049 	#49 280-111063-A-9 		Client	voaWater	20.00	mL	1.000
280-0071447-050 	#50 280-111064-H-1 		Client	voaWater	20.00	mL	1.000
280-0071447-051 	#51 280-111064-A-2 		Client	voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\070318am.s

Comment:

Operator: wickhamt

Data Path: C:\MSDCHEM\1\DATA\070318am\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MS1

DV-MS-0010 (82601624) (Circle)

Purge Volume: (20ml)/5mL/5g  
(Circle)

Tune Time: 06:45-16:44

Lines Retain: 420929

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

Sequence Barcode Options

(X) On Mismatch, Inject Anyway

( ) On Mismatch, Don't Inject





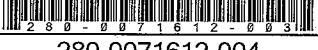

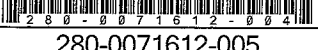

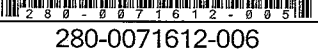

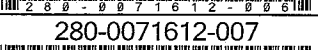
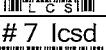
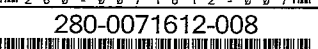
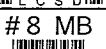
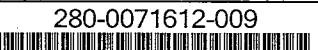
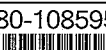










( ) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample	100 MS1_3918 BFB BFB 06:45
2) Sample	10 MS1_3919 8260 blank
3) Sample	11 MS1_3920 8260 ccv m
4) Sample	12 MS1_3921 8260 ccv s
5) Sample	13 MS1_3922 8260 lcs af
6) Sample	14 MS1_3923 8260 mb af
7) Sample	15 MS1_3924 8260 160-28852-C-2-A 0.04ml
8) Sample	16 MS1_3925 8260 160-28852-C-3-A 0.04ml
9) Sample	17 MS1_3926 8260 280-111255-B-5 20ml ph<2
10) Sample	18 MS1_3927 8260 280-111257-C-15 20ml ph<2
11) Sample	19 MS1_3928 8260 280-111257-A-5 20ml ph<2 af
12) Sample	20 MS1_3929 8260 280-111257-C-5 MS 20ml ph<2 af
13) Sample	21 MS1_3930 8260 280-111257-A-5 MSD 20ml ph<2 af
14) Sample	22 MS1_3931 8260 280-111257-C-1 20ml ph=7
15) Sample	23 MS1_3932 8260 280-111257-C-2 20ml ph<2 af
16) Sample	24 MS1_3933 8260 280-111257-B-3 20ml ph<2 af
17) Sample	25 MS1_3934 8260 280-111257-C-4 20ml ph<2 af
18) Sample	26 MS1_3935 8260 280-111257-B-6 20ml ph<2
19) Sample	27 MS1_3936 8260 280-111255-A-1 20ml ph<2
20) Sample	28 MS1_3937 8260 280-111255-A-2 20ml ph<2
21) Sample	29 MS1_3938 8260 280-111255-B-3 20ml ph<2
22) Sample	30 MS1_3939 8260 280-111255-A-4 20ml ph<2
23) Sample	31 MS1_3940 8260 280-111255-B-6 20ml ph<2
24) Sample	32 MS1_3941 8260 280-111255-A-7 20ml ph<2
25) Sample	33 MS1_3942 8260 280-111255-B-8 20ml ph<2
26) Sample	34 MS1_3943 8260 280-111255-A-9 20ml ph<2
27) Sample	35 MS1_3944 8260 280-111255-B-10 20ml ph<2
28) Sample	36 MS1_3945 8260 280-110943-E-16 20ml ph<2 af
29) Sample	37 MS1_3946 8260 280-111058-A-31 20ml ph<2
30) Sample	38 MS1_3947 8260 280-111058-A-32 20ml ph<2 16:44






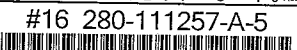
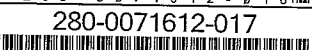
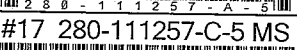
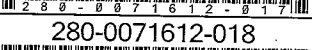
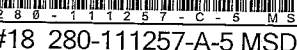
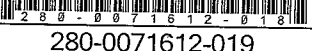
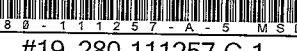
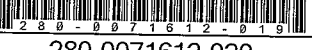








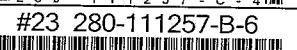
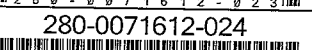
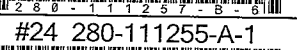
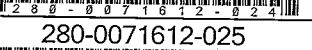
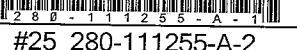
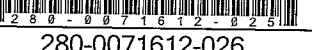
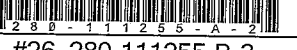










TestAmerica Laboratories  
Worklist Report











Worklist Name: 070318am  
 Instrument Name: VMS\_MS1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180703-71612.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS1  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00098 Amount Added: 1.080, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071612-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071612-002 	# 2 CCV 	MV-2Cleve+AVA_00036 MV-Gas/Ket A_00073 MV-Main A_00037	CCV	voaWater	20.00	mL	1.000
280-0071612-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071612-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCS	voaWater	20.00	mL	1.000
280-0071612-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCSD	voaWater	20.00	mL	1.000
280-0071612-006 	# 6 LCS 	MV-Supp B_00020	LCS	voaWater	20.00	mL	1.000
280-0071612-007 	# 7 lcsd 	MV-Supp B_00020	LCSD	voaWater	20.00	mL	1.000
280-0071612-008 	# 8 MB 		MB	voaWater	20.00	mL	1.000
280-0071612-009 	# 9 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071612-010 	#10 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071612-011 	#11 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071612-012 	#12 160-28852-C-2-A 		Client	voaWater	2.000	mL	50.00
280-0071612-013 	#13 160-28852-C-3-A 		Client	voaWater	2.000	mL	5.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071612-014 	#14 280-111255-B-5 		Client	voaWater	20.00	mL	1.000
280-0071612-015 	#15 280-111257-C-15 		Client	voaWater	20.00	mL	1.000
280-0071612-016 	#16 280-111257-A-5 		Client	voaWater	20.00	mL	1.000
280-0071612-017 	#17 280-111257-C-5 MS 	MV-Main B_00021 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	MS	voaWater	20.00	mL	1.000
280-0071612-018 	#18 280-111257-A-5 MSD 	MV-Main B_00021 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	MSD	voaWater	20.00	mL	1.000
280-0071612-019 	#19 280-111257-C-1 		Client	voaWater	20.00	mL	1.000
280-0071612-020 	#20 280-111257-C-2 		Client	voaWater	20.00	mL	1.000
280-0071612-021 	#21 280-111257-B-3 		Client	voaWater	20.00	mL	1.000
280-0071612-022 	#22 280-111257-C-4 		Client	voaWater	20.00	mL	1.000
280-0071612-023 	#23 280-111257-B-6 		Client	voaWater	20.00	mL	1.000
280-0071612-024 	#24 280-111255-A-1 		Client	voaWater	20.00	mL	1.000
280-0071612-025 	#25 280-111255-A-2 		Client	voaWater	20.00	mL	1.000
280-0071612-026 	#26 280-111255-B-3 		Client	voaWater	20.00	mL	1.000
280-0071612-027 	#27 280-111255-A-4 		Client	voaWater	20.00	mL	1.000
280-0071612-028 	#28 280-111255-B-6 		Client	voaWater	20.00	mL	1.000
280-0071612-029 	#29 280-111255-A-7 		Client	voaWater	20.00	mL	1.000
280-0071612-030 	#30 280-111255-B-8 		Client	voaWater	20.00	mL	1.000
280-0071612-031 	#31 280-111255-A-9 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071612-032 	#32 280-111255-B-10 		Client	voaWater	20.00	mL	1.000
280-0071612-033 	#33 280-110943-E-16 		Client	voaWater	20.00	mL	1.000
280-0071612-034 	#34 280-111058-A-31 		Client	voaWater	20.00	mL	4.000
280-0071612-035 	#35 280-111058-A-32 		Client	voaWater	20.00	mL	4.000
280-0071612-036 	#36 Samp 36 		Client	voaWater	20.00	mL	1.000



7/3/2018  
8:01AM

**Sample Request Form: 48736**

Page 1 of 2

den\_msvoa\_totalbacklog 7/3/2018 8:00:59 AM Assigned to:Wickham, Tom A

7-3-18  
Tav

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-111255-1 20	MW93-U-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-2 20	MW93-U-18-02_FD	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-3 20	MW74-U-18-02 (HIS)	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-4 20	MW74-L-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-5 20	TB3-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-6 20	MW101-U-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-7 20	MW101-L-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-8 20	MW73-U-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-9 20	MW73-L-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										
280-111255-10 20	MW71-L-18-02	ph <sup>+</sup> 2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	JNI	AZ	MS-Strge	Unconfirmed
M Q4/DIL3										



7/3/2018  
8:01AM

Sample Request Form: 48736

Page 2 of 2

den\_msvoa\_totalbacklog 7/3/2018 8:00:59 AM Assigned to: Wickham, Tom A

7-3-18  
TAW

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-111257-1 20	ST003-MW16	ph=7	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-2 20	ST003-MW24 Sul at	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-3 20	ST003-MW25 Sul at	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-4 20	ST003-MW14 2.5ul at	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-5 20	ST003-MW02 Sul at	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-5MS 20	ST003-MW02 Sul at	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-5MSD 20	ST003-MW02 Sul at	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-6 20	ST003-MW11	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										
280-111257-15 20	Trip Blank (HS)	ph=2	8260_DoD	8260_DoD	07/03 23:59	07/10/18	CNC	MT	MS-Strge	Unconfirmed
M Q4_DIL3_60day disp/LCSD required if no MS/MSD requested										

MS9 6-25  
110943-16 20 (HS) Sul at ph=2  
111058-31 5 (HS) ph=2  
-32 5 (HS) ph=2  
160-28852-2 0.04 (HS)  
-3 0.04 (HS) } TCLP



# 1311\_Z Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 280-419307

Analyst: Bourgery, David F

Batch Open: 6/20/2018 11:54:00AM

Batch End: 6/20/2018 12:54:00PM

TCLP Extraction

7-2-18 / 7-3-18  
Tad / Tan

HT 7-4

Input Sample Lab ID (Analytical Method)	SDG (Job #)	Matrix	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
LB3-280-419307/1 N/A	N/A		2		N/A	N/A	N/A	1 in Lat } MSI	LB3-280-419307/1-A
LCS-280-419307/2 N/A	N/A		2		N/A	N/A	N/A	1 in Lat } batch 420778	LCS-280-419307/2-A
160-28852-B-1 (8260B)	160-28852-1 (160-28852-1)	Water	2		7/1/18	23_Days	4	pH=5	160-28852-B-1-A
160-28852-C-2 (8260B)	160-28852-1 (160-28852-1)	Water	2 0.04mL		7/1/18	23_Days	4	pH=6	160-28852-C-2-A
160-28852-C-3 (8260B)	160-28852-1 (160-28852-1)	Water	2 0.04mL		7/1/18	23_Days	4	pH=6	160-28852-C-3-A
320-40314-A-8 (8260B_DOD5)	N/A (320-40314-1)	Water	2		7/6/18	15_Days	4	2 MSI 3 batch 420778	320-40314-A-8-A

MAY CONTAIN RADIOACTIVE MATERIALS

**CAT-1**

Return all empty sample containers  
to their original storage location



Sequence Name: C:\msdchem\1\sequence\071318PM.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\071318PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9

DV-MS-0010 (62604/624) (Circle)

Purge Volume: (20ml/5mL/5g)

(Circle)

Tune Time: 2/9-627

Line Batch: 422211

Line	Sample Name/Misc Info
1) Sample	100 MS9_2544 BFB BFB
2) Sample	100 MS9_2545 BFB BFB
3) Sample	10 MS9_2546 8260 BLK
4) Sample	11 MS9_2547 8260 CCV M
5) Sample	12 MS9_2548 8260 CCV S
6) Sample	13 MS9_2549 8260 LCS
7) Sample	14 MS9_2550 8260 MB
8) Sample	15 MS9_2551 8260 550-105667-b-1 PH=6 AF
9) Sample	16 MS9_2552 8260 550-105667-c-1 MS PH=6 AF
10) Sample	17 MS9_2553 8260 550-105667-c-1 MSD PH=6 AF
11) Sample	18 MS9_2554 8260 550-105667-b-3 PH=5
12) Sample	19 MS9_2555 8260 550-105668-b-1 PH=6
13) Sample	20 MS9_2556 8260 550-105668-a-3 PH=5
14) Sample	21 MS9_2557 8260 550-105671-b-1 PH=6
15) Sample	22 MS9_2558 8260 550-105671-b-3 PH=5
16) Sample	23 MS9_2559 8260 550-105672-a-1 PH=6
17) Sample	24 MS9_2560 8260 550-105672-b-3 PH=5
18) Sample	25 MS9_2561 8260 280-111710-e-1 PH<2
19) Sample	26 MS9_2562 8260 280-111710-a-2 PH<2
20) Sample	27 MS9_2563 8260 280-111710-e-3 PH<2
21) Sample	28 MS9_2564 8260 280-111710-a-4 PH<2
22) Sample	29 MS9_2565 8260 280-110943-c-17 PH<2 400X HS
23) Sample	30 MS9_2566 8260 280-110943-c-17 PH<2 4000X HS
24) Sample	31 MS9_2567 8260 280-110943-d-18 PH<2 400X
25) Sample	32 MS9_2568 8260 280-110943-d-18 PH<2 400X
26) Sample	33 MS9_2569 8260 280-110943-a-19 PH<2
27) Sample	34 MS9_2570 8260 280-111300-c-3 PH<2
28) Sample	35 MS9_2571 8260 DQRs
29) Sample	36 MS9_2572 8260 280-111433-r-1 4X 1/2HS
30) Sample	37 MS9_2573 8260 280-111482-g-3
31) Sample	38 MS9_2574 8260 280-111482-g-4
32) Sample	39 MS9_2575 8260 280-111482-i-6
33) Sample	40 MS9_2576 8260 280-111542-b-7
34) Sample	41 MS9_2577 8260 280-111621-a-5 1/2HS
35) Sample	42 MS9_2578 8260 280-111621-d-6
36) Sample	43 MS9_2579 8260 PRIMER
37) Sample	44 MS9_2580 8260 PRIMER







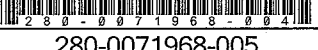

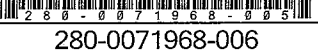
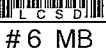
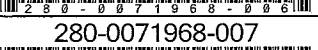
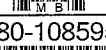
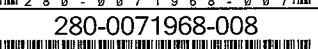
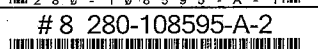
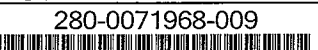
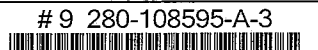










7/16/18  
B







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 071318pm  
 Instrument Name: VMS\_MS9  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180713-71968.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00099 Amount Added: 0.880, Units: uL

Page 401 of 632

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071968-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071968-002 	# 2 CCV 	MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	CCV	voaWater	20.00	mL	1.000
280-0071968-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0071968-004 	# 4 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCS	voaWater	20.00	mL	1.000
280-0071968-005 	# 5 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCSD	voaWater	20.00	mL	1.000
280-0071968-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0071968-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071968-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071968-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071968-010 	#10 550-105667-B-1 		Client	voaWater	20.00	mL	1.000
280-0071968-011 	#11 550-105667-C-1 MS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	MS	voaWater	20.00	mL	1.000
280-0071968-012 	#12 550-105667-C-1 MSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	MSD	voaWater	20.00	mL	1.000
280-0071968-013 	#13 550-105667-B-3 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071968-014 	#14 550-105668-B-1 		Client	voaWater	20.00	mL	1.000
280-0071968-015 	#15 550-105668-A-3 		Client	voaWater	20.00	mL	1.000
280-0071968-016 	#16 550-105671-B-1 		Client	voaWater	20.00	mL	1.000
280-0071968-017 	#17 550-105671-B-3 		Client	voaWater	20.00	mL	1.000
280-0071968-018 	#18 550-105672-A-1 		Client	voaWater	20.00	mL	1.000
280-0071968-019 	#19 550-105672-B-3 		Client	voaWater	20.00	mL	1.000
280-0071968-020 	#20 280-111710-E-1 		Client	voaWater	20.00	mL	1.000
280-0071968-021 	#21 280-111710-A-2 		Client	voaWater	20.00	mL	1.000
280-0071968-022 	#22 280-111710-E-3 		Client	voaWater	20.00	mL	1.000
280-0071968-023 	#23 280-111710-A-4 		Client	voaWater	20.00	mL	1.000
280-0071968-024 	#24 280-110943-C-17 		Client	voaWater	20.00	mL	400.0
280-0071968-025 	#25 280-110943-C-17 		Client	voaWater	20.00	mL	4000.0
280-0071968-026 	#26 280-110943-D-18 		Client	voaWater	20.00	mL	400.0
280-0071968-027 	#27 280-110943-D-18 		Client	voaWater	20.00	mL	4000.0
280-0071968-028 	#28 280-110943-A-19 		Client	voaWater	20.00	mL	1.000
280-0071968-029 	#29 280-111300-C-3 		Client	voaWater	20.00	mL	1.000
280-0071968-030 	#30 DQR 		Client	voaWater	20.00	mL	1.000
280-0071968-031 	#31 Samp 31 		Client	voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\050518am.s

Comment:

Operator: wickhamt

Data Path: C:\MSDCHEM\1\DATA\050518am\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MS1

OV-MS-0010 (8260B/024) (Circle)

Purge Volume: (20ml/5ml/5g)

(Circle)

Tune Time: 08:31-20:16

Time Batch: 413853

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

Sequence Barcode Options

(X) On Mismatch, Inject Anyway

( ) On Mismatch, Don't Inject

( ) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample 50	MS1_1615 8260 primer
2) Sample 51	MS1_1616 8260 primer
3) Sample 100	MS1_1617 BFB bfb 08:31
4) Sample 1	MS1_1618 8260 blank
5) Sample 2	MS1_1619 8260 blank
6) Sample 3	MS1_1620 8260 std003
7) Sample 4	MS1_1621 8260 std01
8) Sample 5	MS1_1622 8260 std02
9) Sample 6	MS1_1623 8260 std05
10) Sample 7	MS1_1624 8260 std10
11) Sample 8	MS1_1625 8260 std30
12) Sample 9	MS1_1626 8260 std60
13) Sample 10	MS1_1627 8260 blank
14) Sample 11	MS1_1628 8260 icv
15) Sample 12	MS1_1629 8260 std01
16) Sample 13	MS1_1630 8260 std02
17) Sample 14	MS1_1631 8260 std05
18) Sample 15	MS1_1632 8260 icis
19) Sample 16	MS1_1633 8260 std30
20) Sample 17	MS1_1634 8260 std60
21) Sample 18	MS1_1635 8260 blank
22) Sample 19	MS1_1636 8260 icv
23) Sample 20	MS1_1637 8260 lcs
24) Sample 21	MS1_1638 8260 mb
25) Sample 22	MS1_1639 8260 280-109435-H-1 ph=7
26) Sample 23	MS1_1640 8260 280-109435-I-2 ph=7
27) Sample 24	MS1_1641 8260 280-109435-H-2 ms ph=7
28) Sample 25	MS1_1642 8260 280-109435-H-2 msd ph=7
29) Sample 26	MS1_1643 8260 280-109435-H-3 ph=7
30) Sample 27	MS1_1644 8260 280-109435-I-4 ph=7
31) Sample 28	MS1_1645 8260 280-109435-H-5 ph=7
32) Sample 29	MS1_1646 8260 280-109435-H-6 ph=7
33) Sample 30	MS1_1647 8260 280-109435-J-7 ph=7
34) Sample 31	MS1_1648 8260 280-109435-H-8 ph=7
35) Sample 32	MS1_1649 8260 280-109435-H-9 ph=7 20:16
36) Sample 33	MS1_1650 8260 280-109435-I-10 ph=7 did not run
37) Sample 34	MS1_1651 8260 primer

5-7-18  
Taw

MAIN ICAL

Calib ID: 32299

WL: 69605

ICV: 17

good for Q4/Q5

SUPP ICAL

Calib ID: 32300

WL: 69605

ICIS/ICV: 21/24

good for Q4/Q5

\*\*\*no ICAL for ethylene oxide

1st level: Cm 5/7/18















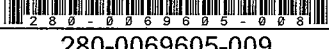
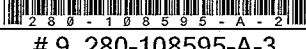
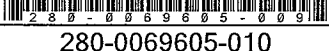
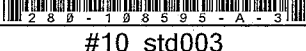
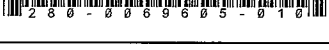
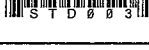




2nd level: Taw 5-7-18

















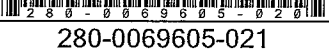
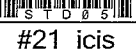

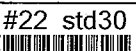

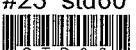


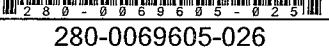
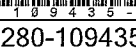






TestAmerica Laboratories  
Worklist Report

Worklist Name: 050518am  
 Instrument Name: VMS\_MS1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180505-69605.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS1  
 Run Reagent: MV-568718-D\_00008  
 Run Reagent: MV-ARCH SS A\_00090















Worklist Number: 69605  
 Chrom Method: AQ\_VMS1\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.852, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0069605-001 	# 1 BFB 	MV-BFB_00025	BFB		voaWater	1.000	uL	1.000
280-0069605-002 	# 2 CCV 	MV-2cleve+AVA_00034 MV-Gas/Ket A_00071 MV-Main A_00035	CCV		voaWater	20.00	mL	1.000
280-0069605-003 	# 3 CCV 	MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0069605-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00020 MV-Gas/Ket B_00041	LCS		voaWater	20.00	mL	1.000
280-0069605-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Gas/Ket B_00041 MV-Main B_00020	LCSD		voaWater	20.00	mL	1.000
280-0069605-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0069605-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0069605-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0069605-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0069605-010 	#10 std003 	MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00071 MV-2cleve+AVA_00034	IC	1	voaWater	20.00	mL	1.000
280-0069605-011 	#11 std01 	MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00071 MV-2cleve+AVA_00034	IC	2	voaWater	20.00	mL	1.000
280-0069605-012 	#12 std02 	MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00071 MV-2cleve+AVA_00034	IC	3	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0069605-013 	#13 std05 	MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00071 MV-2cleve+AVA_00034	IC	4	voaWater	20.00	mL	1.000
280-0069605-014 	#14 icis 	MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00071 MV-2cleve+AVA_00034	ICIS	5	voaWater	20.00	mL	1.000
280-0069605-015 	#15 std30 	MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00071 MV-2cleve+AVA_00034	IC	6	voaWater	20.00	mL	1.000
280-0069605-016 	#16 std60 	MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00071 MV-2cleve+AVA_00034	IC	7	voaWater	20.00	mL	1.000
280-0069605-017 	#17 icv 	MV-568718-D_00008 MV-Main B_00020 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	ICV		voaWater	20.00	mL	1.000
280-0069605-018 	#18 std01 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Supp A_00029	IC	2	voaWater	20.00	mL	1.000
280-0069605-019 	#19 std02 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Supp A_00029	IC	3	voaWater	20.00	mL	1.000
280-0069605-020 	#20 std05 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Supp A_00029	IC	4	voaWater	20.00	mL	1.000
280-0069605-021 	#21 icis 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Supp A_00029	ICIS	5	voaWater	20.00	mL	1.000
280-0069605-022 	#22 std30 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Supp A_00029	IC	6	voaWater	20.00	mL	1.000
280-0069605-023 	#23 std60 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Supp A_00029	IC	7	voaWater	20.00	mL	1.000
280-0069605-024 	#24 icv 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Supp B_00020	ICV		voaWater	20.00	mL	1.000
280-0069605-025 	#25 280-109435-H-1 		Client		voaWater	20.00	mL	1.000
280-0069605-026 	#26 280-109435-I-2 		Client		voaWater	20.00	mL	1.000
280-0069605-027 	#27 280-109435-H-2 MS 	MV-Main B_00020 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	MS		voaWater	20.00	mL	1.000
280-0069605-028 	#28 280-109435-H-2 MSD 	MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043 MV-Main B_00020	MSD		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0069605-029 	#29 280-109435-H-3 		Client		voaWater	20.00	mL	1.000
280-0069605-030 	#30 280-109435-I-4 		Client		voaWater	20.00	mL	1.000
280-0069605-031 	#31 280-109435-H-5 		Client		voaWater	20.00	mL	1.000
280-0069605-032 	#32 280-109435-H-6 		Client		voaWater	20.00	mL	1.000
280-0069605-033 	#33 280-109435-J-7 		Client		voaWater	20.00	mL	1.000
280-0069605-034 	#34 280-109435-H-8 		Client		voaWater	20.00	mL	1.000
280-0069605-035 	#35 280-109435-H-9 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\061118am.s

Comment:

Operator: wickhamt

Data Path: C:\MSDCHEM\1\DATA\061118am\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MS1

OV-MS-0010 (8260/624) (Circle)

Purge Volume: (20m)/5mL/5g)

(Circle)

Tune Time: 09:54-15:14

Line Batch: 418017

Method Sections To Run

Sequence Barcode Options

(X) Full Method

(X) On Mismatch, Inject Anyway

( ) Reprocessing Only

( ) On Mismatch, Don't Inject

( ) Barcode Disabled

6-12-18  
TAW

Line	Sample Name/Misc Info
1) Sample 51	MS1_3145 8260 primer
2) Sample 100	MS1_3146 BFB bfb
3) Sample 100	MS1_3147 BFB bfb
4) Sample 100	MS1_3148 BFB bfb
5) Sample 100	MS1_3149 BFB bfb
6) Sample 1	MS1_3150 8260 blank
7) Sample 2	MS1_3151 8260 ccv m
8) Sample 3	MS1_3152 8260 ccv s
9) Sample 4	MS1_3153 8260 ccv m
10) Sample 100	MS1_3154 BFB bfb
11) Sample 100	MS1_3155 BFB bfb
12) Sample 100	MS1_3156 BFB bfb 09:54
13) Sample 1	MS1_3157 8260 blank
14) Sample 2	MS1_3158 8260 ccv m
15) Sample 3	MS1_3159 8260 ccv s
16) Sample 1	MS1_3160 8260 blank
17) Sample 2	MS1_3161 8260 blank
18) Sample 3	MS1_3162 8260 std003
19) Sample 4	MS1_3163 8260 std01
20) Sample 5	MS1_3164 8260 std02
21) Sample 6	MS1_3165 8260 std05
22) Sample 7	MS1_3166 8260 icis
23) Sample 8	MS1_3167 8260 std30
24) Sample 9	MS1_3168 8260 std60
25) Sample 10	MS1_3169 8260 blank
26) Sample 11	MS1_3170 8260 icv 15:14
27) Sample 12	MS1_3171 8260 primer
28) Sample 13	MS1_3172 8260 primer

MAIN/GAS/2-CLEVE/SURR ICAL

calib ID: 32653

wL: 70849

ICIS/ICV: 16/19

good for Q4/Q5 except:

acrolein -30.6%

1<sup>st</sup> level: TAW 6-12-18

























2<sup>nd</sup> level: AL 6/12/18
















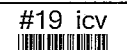
TestAmerica Laboratories  
Worklist Report

Worklist Name: 061118am  
 Instrument Name: VMS\_MS1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180611-70849.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS1  
 Run Reagent: MV-568718-D\_00008  
 Run Reagent: MV-ARCH SS A\_00090

Worklist Number: 70849  
 Chrom Method: AQ\_VMS1\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 1.080, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070849-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0070849-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00036 MV-Gas/Ket A_00073	CCV		voaWater	20.00	mL	1.000
280-0070849-003 	# 3 CCV 	MV-Supp A_00029 MV-568718-D_00008	CCV		voaWater	20.00	mL	1.000
280-0070849-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCS		voaWater	20.00	mL	1.000
280-0070849-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCSD		voaWater	20.00	mL	1.000
280-0070849-006 	# 6 LCS 	MV-Supp B_00020	LCS		voaWater	20.00	mL	1.000
280-0070849-007 	# 7 lcscd 	MV-Supp B_00020	LCSD		voaWater	20.00	mL	1.000
280-0070849-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0070849-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0070849-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0070849-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0070849-012 	#12 std003 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00036	IC	1	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070849-013 	#13 std01 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00036	IC	2	voaWater	20.00	mL	1.000
280-0070849-014 	#14 std02 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00036	IC	3	voaWater	20.00	mL	1.000
280-0070849-015 	#15 std05 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00036	IC	4	voaWater	20.00	mL	1.000
280-0070849-016 	#16 icis 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00036	ICIS	5	voaWater	20.00	mL	1.000
280-0070849-017 	#17 std30 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00036	IC	6	voaWater	20.00	mL	1.000
280-0070849-018 	#18 std60 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main A_00036 MV-Gas/Ket A_00073 MV-2cleve+AVA_00036	IC	7	voaWater	20.00	mL	1.000
280-0070849-019 	#19 icv 	MV-568718-D_00008 MV-ARCH SS A_00090 MV-Main B_00021 MV-Gas/Ket B_00042 MV-SS 2-Cleve_00043	ICV		voaWater	20.00	mL	1.000



Full ICAL

## GCMS Volatile ICAL Data Review Checklist

N.C. Ethanol / propene oxide / Tetrachloroethane

LIMS Batch Number: <b>419367</b>	Worklist #: <b>71198</b>	ICAL Event #: —	ICIS/ICV Line #s: <b>17/21/24</b>	2 <sup>nd</sup> Day CV Line# —	Instrument ID: <b>P1 6/20</b>
2 <sup>nd</sup> Day Batch/ICV Lines: <b>HAZY ICES/ SUPP</b>					
Analyst/1 <sup>st</sup> Reviewer: <b>[Signature]</b>		Prep Method (circle): <b>5030</b> 5035-L 5035-H		Analytical Method (circle): 624 <b>8260B</b> SIM Other —	
Date: <b>6/21/18</b>					
QC Type (circle): <b>Standard</b> DOD Q4 DoD Q5 QAPP Other —					
Matrix (circle one): <b>Water</b> Solid			Circle: 5-mL <b>20-mL</b> Meth Ext 5 g		

Review Items	NA	Yes	No	2 <sup>nd</sup> Rev	Comments
<b>A. Tune / Calibration</b>					
1. Did BFB meet tune criteria? If CFCs, did autotune meet SOP criteria?		✓		X	
2. Were all standards injected within 12 hours of the BFB? (or 24 hours for 624?)		✓		X	
3. Were ≥ 5 levels of each compound and surrogate analyzed? (624 has minimum of four standards)		✓		X	
4. Was low level standard at or below RL?		✓		X	
5. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)		✓		X	(Other than those stated in SOP) <b>Acrolein VL = 300</b> <b>Bromoform / DDEP / Hexachlorobutadiene</b> <b>VL = 30</b>
6. Do the average RFs meet minimum RF requirements? (624 – not method defined) (8260B-SPCCs = Chloromethane, 1,1-Dichloroethane, Bromoform ≥0.1; Chlorobenzene, 1,1,2,2-Tetrachloroethane ≥0.3)		✓		X	
7. Did the calibration %RSD meet method requirements? (624: ≤35% all cmpds) (8260B: ≤30% for CCCs & ≤15% for all other cmpds/surrogates)		✓		X	
8. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?		✓		X	
9. If regression fit used, is $r^2 \geq 0.990$ ?		✓		X	
10. At least 6 consecutive points used for quadratic curves?	✓			X	
11. For quadratic – examine plot: Is a tangent's slope to the curve entirely positive or negative and continuous? (does not flatten or recurve within the range of calibration)	✓			X	
12. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005); (recommended limits ±30% low point & ±20% all other points) (Chrom Report = Details of Calibration per Analyte)	✓			X	
13. Is the concentration intercept <  RL  for each cmpd? ("X" intercept in Chrom)		✓		X	
Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2 <sup>nd</sup> review of all MIs required		✓		X	
14. Was the high point checked for detector saturation?		✓		X	



Review Items	NA	Yes	No	2nd Rev	Comments
15. Isomeric pairs (checked for elution order/correct peak assignment?) <ul style="list-style-type: none"> <li>• Vinyl Acetate / Isopropyl Ether</li> <li>• 1,2- &amp; 1,3- &amp; 1,4-Dichlorobenzene</li> <li>• Ethylbenzene / m- &amp; p-Xylenes</li> <li>• o-Xylene / Styrene</li> <li>• 1,3,5- &amp; 1,2,4-Trimethylbenzene / Isopropylbenzene / sec-butylbenzene</li> <li>• 2-nitropropane between bromodichloromethane &amp; MIBK</li> <li>• 2- &amp; 4-Chlorotoluene / n-Propylbenzene</li> <li>• MIBK / 2-Hexanone</li> <li>• Methyl Methacrylate / Ethyl Methacrylate</li> <li>• 1,1-Dichloroethene / cis-1,2- &amp; trans-1,2-Dichloroethene</li> <li>• 1,2,3- &amp; 1,2,4-Trichlorobenzene</li> <li>• 1,1-Dichloropropene / cis-1,3- &amp; trans-1,3-Dichloropropene / 1,2,3-Trichloropropane</li> <li>• Chlorobenzene-d5 / 1,1,1,2-Tetrachloroethane</li> <li>• Trichlorofluoromethane / Freon 113</li> <li>• Hexane / Vinyl Acetate</li> </ul> (Chrom: View/Documents/Methods/Isomers)		✓		X	
16. Was the 2nd source initial calibration verification standard (ICV) within required criteria? (624 = QCS method defined/Table5) (8260B = SOP defined) (DoD = ±20%) QAPP specific		✓		X	Acrolein - 26.5% CIS 1,4-Dichloro-2-butene - 23.2%
17. Was the ICV Target report printed and elution order of all analytes verified? (attach at L1 Review)		✓		X	If No, immediate corrective action required
18. If any criteria from items 1-17 were not met, was a NCM generated and supervisor copied?		✓		X	
19. Are all files and QC linked and processed correctly?		✓		X	<input type="checkbox"/> Files linked properly to calibration levels? <input type="checkbox"/> All points are in the most recent active calibration event? [Calibration Events - 'Fix ICAL linkage' if needed] <input type="checkbox"/> Runs linked to BFB? [QC links] <input type="checkbox"/> Checklist & run log scanned, attached & assigned properly?
20. Is the ICAL locked in TALS and Chrom?		✓		X	
21. ICAL Date and Instrument ID verified?		✓		X	

Comments:

2<sup>nd</sup> Reviewer:

RSN

Review Date:

6/22/18



Sequence Name: C:\msdchem\1\sequence\062018PM.s

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\062018PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: R1

DV-MS-0010 (~~2200B~~/624) (Circle)

Purge Volume: 20mL/5mL/5g

Tune Time: 2330-929 (Circle)

Lims Batch: 419367

Method Sections To Run

Sequence Barcode Options

(X) Full Method

( ) On Mismatch, Inject Anyway

( ) Reprocessing Only

( ) On Mismatch, Don't Inject

(X) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample	100 R2059 BFB BFB
2) Sample	10 R2060 8260 BLK
3) Sample	11 R2061 8260 CCV M
4) Sample	12 R2062 BFB CCV S
5) Sample	100 R2063 BFB BFB
6) Sample	10 R2064 8260 BLK
7) Sample	11 R2065 8260 CCV M
8) Sample	12 R2066 8260 CCV S
9) Sample	13 R2067 8260 CCV M
10) Sample	100 R2068 BFB BFB
11) Sample	10 R2069 8260 BLK
12) Sample	11 R2070 8260 BLK
13) Sample	12 R2071 8260 STD60
14) Sample	13 R2072 8260 STD30
15) Sample	14 R2073 8260 STD10
16) Sample	15 R2074 8260 STD5
17) Sample	16 R2075 8260 STD2
18) Sample	17 R2076 8260 STD1
19) Sample	18 R2077 8260 STD.3
20) Sample	19 R2078 8260 ICV
21) Sample	20 R2079 8260 MB
22) Sample	21 R2080 8260 280-111102-A-1 MDLV
23) Sample	22 R2081 8260 280-111102-A-2 MDLV
24) Sample	23 R2082 8260 280-111102-A-3 MDLV
25) Sample	24 R2083 8260 280-111102-A-4 MDLV
26) Sample	25 R2084 8260 280-111102-A-5 MDLV
27) Sample	26 R2085 8260 STD
28) Sample	27 R2086 8260 STD
29) Sample	28 R2087 8260 STD
30) Sample	29 R2088 8260 ICIS
31) Sample	30 R2089 8260 STD
32) Sample	31 R2090 8260 STD
33) Sample	32 R2091 8260 ICV
34) Sample	33 R2092 8260 PRIMER
35) Sample	34 R2093 8260 PRIMER

6/21/18







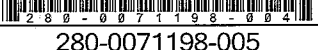

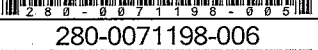
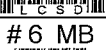
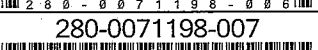
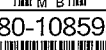
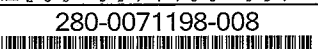
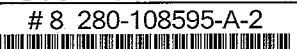




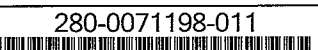

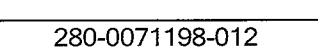

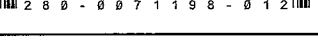
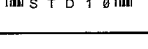
*[Signature]*



























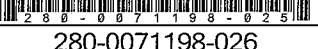
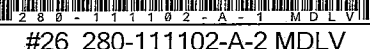
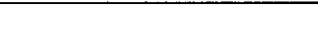
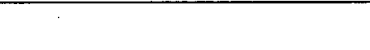
TestAmerica Laboratories  
Worklist Report

Worklist Name: 062018ICAL  
 Instrument Name: VMS\_R1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_R1\20180621-71198.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_R1  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00098







Worklist Number: 71198  
 Chrom Method: AQ\_VMSR1\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.960, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071198-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071198-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00074	CCV		voaWater	20.00	mL	1.000
280-0071198-003 	# 3 CCV 	MV-Supp A_00030 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0071198-004 	# 4 LCS 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCS		voaWater	20.00	mL	1.000
280-0071198-005 	# 5 LCSD 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCSD		voaWater	20.00	mL	1.000
280-0071198-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0071198-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071198-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071198-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071198-010 	#10 STD60 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036 MV-568718-D_00014	IC	7	voaWater	20.00	mL	1.000
280-0071198-011 	#11 STD30 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036 MV-568718-D_00014	IC	6	voaWater	20.00	mL	1.000
280-0071198-012 	#12 STD10 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	5	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071198-013 	#13 STD5 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	4	voaWater	20.00	mL	1.000
280-0071198-014 	#14 STD2 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	3	voaWater	20.00	mL	1.000
280-0071198-015 	#15 STD1 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	2	voaWater	20.00	mL	1.000
280-0071198-016 	#16 STD03 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	1	voaWater	20.00	mL	1.000
280-0071198-017 	#17 ICV 	MV-568718-D_00014 MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	ICV		voaWater	20.00	mL	1.000
280-0071198-018 	#18 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	2	voaWater	20.00	mL	1.000
280-0071198-019 	#19 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	3	voaWater	20.00	mL	1.000
280-0071198-020 	#20 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	4	voaWater	20.00	mL	1.000
280-0071198-021 	#21 ICIS 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	ICIS	5	voaWater	20.00	mL	1.000
280-0071198-022 	#22 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	6	voaWater	20.00	mL	1.000
280-0071198-023 	#23 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	7	voaWater	20.00	mL	1.000
280-0071198-024 	#24 ICV 	MV-568718-D_00014 MV-Supp B_00020 Freon_B_00008 MV-ARCH SS A_00098	ICV		voaWater	20.00	mL	1.000
280-0071198-025 	#25 280-111102-A-1 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071198-026 	#26 280-111102-A-2 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071198-027 	#27 280-111102-A-3 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071198-028 	#28 280-111102-A-4 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071198-029 	#29 280-111102-A-5 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000



## GCMS Volatile ICAL Data Review Checklist

LIMS Batch Number: <b>421403</b>	Worklist #: <b>71767</b>	ICAL Event #: <b>—</b>	ICIS/ICV Line #s: <b>17 / 27 / 30</b>	2 <sup>nd</sup> Day ICV Line#	Instrument ID: <b>MS9 7/8</b>
2 <sup>nd</sup> Day Batch/ICV Lines:			<b>Main / ICIS / Supp</b>		
Analyst/1 <sup>st</sup> Reviewer: <b>[Signature]</b>		Prep Method (circle): <b>5030- 5035-L 5035-H</b>		Analytical Method (circle): <b>624 8260B SIM Other</b>	
Date: <b>7/9/18</b>					
QC Type (circle): <b>Standard</b>		<b>DOD Q4 DoD Q5</b>		<b>QAPP Other</b>	
Matrix (circle one): <b>Water</b>		<b>Solid</b>		Circle: <b>5-mL 20-mL</b> Meth Ext <b>5 g</b>	

Review Items	NA	Yes	No	2 <sup>nd</sup> Rev	Comments
<b>A. Tune / Calibration</b>					
1. Did BFB meet tune criteria? If CFCs, did autotune meet SOP criteria?		✓			
2. Were all standards injected within 12 hours of the BFB? (or 24 hours for 624?)		✓			
3. Were ≥ 5 levels of each compound and surrogate analyzed? (624 has minimum of four standards)		✓			
4. Was low level standard at or below RL?		✓			
5. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)		✓			(Other than those stated in SOP)
6. Do the average RFs meet minimum RF requirements? (624 – not method defined) (8260B-SPCCs = Chloromethane, 1,1-Dichloroethane, Bromoform ≥0.1; Chlorobenzene, 1,1,2,2-Tetrachloroethane ≥0.3)		✓			
7. Did the calibration %RSD meet method requirements? (624: ≤35% all cmpds) (8260B: ≤30% for CCCs & ≤15% for all other cmpds/surrogates)		✓			
8. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?		✓			
9. If regression fit used, is $r^2 \geq 0.990$ ?		✓			
10. At least 6 consecutive points used for quadratic curves?	✓				
11. For quadratic – examine plot: Is a tangent's slope to the curve entirely positive or negative and continuous? (does not flatten or recurve within the range of calibration)	✓				
12. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005); (recommended limits ±30% low point & ±20% all other points) (Chrom Report = Details of Calibration per Analyte)	✓				
13. Is the concentration intercept < RL  for each cmpd? ("X" intercept in Chrom)		✓			
Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2 <sup>nd</sup> review of all MIs required		✓			
14. Was the high point checked for detector saturation?		✓			



Review Items	NA	Yes	No	2nd Rev	Comments
15. Isomeric pairs (checked for elution order/correct peak assignment?) <ul style="list-style-type: none"> <li>• Vinyl Acetate / Isopropyl Ether</li> <li>• 1,2- &amp; 1,3- &amp; 1,4-Dichlorobenzene</li> <li>• Ethylbenzene / m- &amp; p-Xylenes</li> <li>• o-Xylene / Styrene</li> <li>• 1,3,5- &amp; 1,2,4-Trimethylbenzene / Isopropylbenzene / sec-butylbenzene</li> <li>• 2-nitropropane between bromodichloromethane &amp; MIBK</li> <li>• 2- &amp; 4-Chlorotoluene / n-Propylbenzene</li> <li>• MIBK / 2-Hexanone</li> <li>• Methyl Methacrylate / Ethyl Methacrylate</li> <li>• 1,1-Dichloroethene / cis-1,2- &amp; trans-1,2-Dichloroethene</li> <li>• 1,2,3- &amp; 1,2,4-Trichlorobenzene</li> <li>• 1,1-Dichloropropene / cis-1,3- &amp; trans-1,3-Dichloropropene / 1,2,3-Trichloropropane</li> <li>• Chlorobenzene-d5 / 1,1,1,2-Tetrachloroethane</li> <li>• Trichlorofluoromethane / Freon 113</li> <li>• Hexane / Vinyl Acetate</li> </ul> (Chrom: View/Documents/Methods/Isomers)		✓			
16. Was the 2nd source initial calibration verification standard (ICV) within required criteria? (624 = QCS method defined/Table5) (8260B = SOP defined) (DoD = ±20%) QAPP specific		✓			Acrolein -28.6% Isopropyl Alcohol +21.7% Tetrahydrothiophene +25.8%
17. Was the ICV Target report printed and elution order of all analytes verified? (attach at L1 Review)		✓			If No, immediate corrective action required
18. If any criteria from items 1-17 were not met, was a NCM generated and supervisor copied?		✓			
19. Are all files and QC linked and processed correctly?		✓			<input type="checkbox"/> Files linked properly to calibration levels? <input type="checkbox"/> All points are in the most recent active calibration event? [Calibration Events - 'Fix ICAL linkage' if needed] <input type="checkbox"/> Runs linked to BFB? [QC links] <input type="checkbox"/> Checklist & run log scanned, attached & assigned properly?
20. Is the ICAL locked in TALS and Chrom?		✓			
21. ICAL Date and Instrument ID verified?		✓			

Comments:

2<sup>nd</sup> Reviewer:

Review Date:



Sequence Name: C:\msdchem\1\sequence\070818I.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\070818I\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9

DV-MS-0010 (82608/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Time Time: 1316-2345

Line Batch: 421403







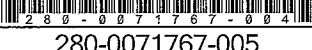

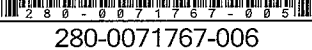
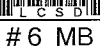
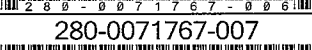
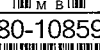
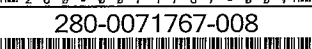
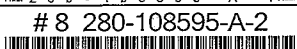




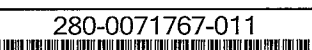
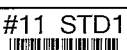
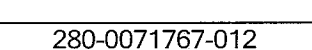
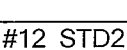
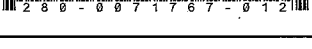
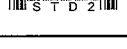
Line	Sample Name/Misc Info
1) Sample	100 MS9_2357 BFB BFB
2) Sample	100 MS9_2358 BFB BFB
3) Sample	100 MS9_2359 BFB BFB
4) Sample	10 MS9_2360 8260 BLK
5) Sample	11 MS9_2361 8260 BLK
6) Sample	12 MS9_2362 8260 STD60
7) Sample	13 MS9_2363 8260 STD30
8) Sample	14 MS9_2364 8260 STD10
9) Sample	15 MS9_2365 8260 STD5
10) Sample	16 MS9_2366 8260 STD2
11) Sample	17 MS9_2367 8260 STD1
12) Sample	18 MS9_2368 8260 STD.3
13) Sample	19 MS9_2369 8260 ICV
14) Sample	20 MS9_2370 8260 STD60
15) Sample	21 MS9_2371 8260 STD30
16) Sample	22 MS9_2372 8260 STD10
17) Sample	23 MS9_2373 8260 STD5
18) Sample	24 MS9_2374 8260 STD2
19) Sample	25 MS9_2375 8260 STD1
20) Sample	26 MS9_2376 8260 ICV
21) Sample	27 MS9_2377 8260 MB
22) Sample	28 MS9_2378 8260 280-111109-a-1 mdlv
23) Sample	29 MS9_2379 8260 280-111109-a-2 mdlv
24) Sample	30 MS9_2380 8260 280-111109-a-3 mdlv
25) Sample	31 MS9_2381 8260 280-111109-a-4 mdlv
26) Sample	32 MS9_2382 8260 280-111109-a-5 mdlv
27) Sample	33 MS9_2383 8260 280-111109-a-5 mdlv
28) Sample	34 MS9_2384 8260 280-111109-a-7 mdlv
29) Sample	35 MS9_2385 8260 280-111109-a-8 mdlv
30) Sample	36 MS9_2386 8260 280-111109-a-9 mdlv
31) Sample	37 MS9_2387 8260 280-111109-a-10 mdlv
32) Sample	38 MS9_2388 8260 280-111109-a-11 mdlv
33) Sample	39 MS9_2389 8260 280-111109-a-11 mdlv
34) Sample	40 MS9_2390 8260 PRIMER
35) Sample	41 MS9_2391 8260 PRIMER

7/4/18











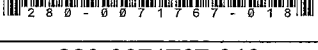
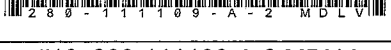
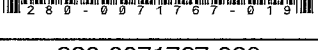
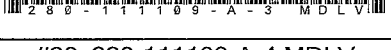
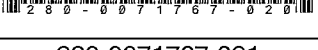
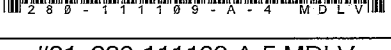
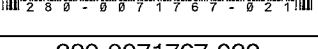
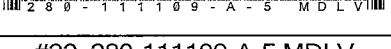
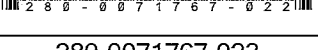
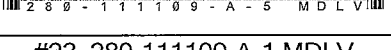
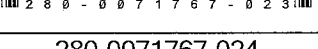
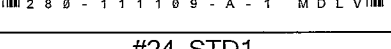
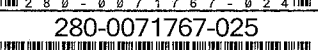
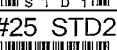


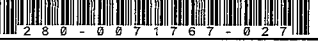





TestAmerica Laboratories  
Worklist Report





















Worklist Name: 070818ICALMDLV      Worklist Number: 71767  
 Instrument Name: VMS\_MS9      Chrom Method: AQ\_VMSMS9\_8260  
 Purge Volume: 20.00      Units: mL  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180708-71767.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014      Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00099      Amount Added: 0.760, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071767-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071767-002 	# 2 CCV 	MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	CCV		voaWater	20.00	mL	1.000
280-0071767-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0071767-004 	# 4 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCS		voaWater	20.00	mL	1.000
280-0071767-005 	# 5 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCSD		voaWater	20.00	mL	1.000
280-0071767-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0071767-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071767-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071767-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071767-010 	#10 STD03 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	1	voaWater	20.00	mL	1.000
280-0071767-011 	#11 STD1 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	2	voaWater	20.00	mL	1.000
280-0071767-012 	#12 STD2 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	3	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071767-013 	#13 STD5 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	4	voaWater	20.00	mL	1.000
280-0071767-014 	#14 STD10 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	5	voaWater	20.00	mL	1.000
280-0071767-015 	#15 STD30 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	6	voaWater	20.00	mL	1.000
280-0071767-016 	#16 STD60 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	7	voaWater	20.00	mL	1.000
280-0071767-017 	#17 ICV 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-568718-D_00014	ICV		voaWater	20.00	mL	1.000
280-0071767-018 	#18 280-111109-A-2 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-019 	#19 280-111109-A-3 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-020 	#20 280-111109-A-4 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-021 	#21 280-111109-A-5 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-022 	#22 280-111109-A-5 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-023 	#23 280-111109-A-1 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-024 	#24 STD1 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	2	voaWater	20.00	mL	1.000
280-0071767-025 	#25 STD2 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	3	voaWater	20.00	mL	1.000
280-0071767-026 	#26 STD5 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	4	voaWater	20.00	mL	1.000
280-0071767-027 	#27 ICIS 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	ICIS	5	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071767-028 	#28 STD30 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	6	voaWater	20.00	mL	1.000
280-0071767-029 	#29 STD60 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	7	voaWater	20.00	mL	1.000
280-0071767-030 	#30 ICV 	MV-Supp B_00021 MV-ARCH SS A_00099 MV-568718-D_00014	ICV		voaWater	20.00	mL	1.000
280-0071767-031 	#31 280-111109-A-7 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-032 	#32 280-111109-A-8 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-033 	#33 280-111109-A-9 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-034 	#34 280-111109-A-10 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-035 	#35 280-111109-A-11 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-036 	#36 280-111109-A-11 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-037 	#37 Samp 35 		Client		voaWater	20.00	mL	1.000



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 413853 Batch Start Date: 05/05/18 08:31 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-ARCH SS A 00090	MV-BFB 00025	MV-Supp A 00029
BFB 280-413853/1		8260B		1 uL	1 uL			1 uL	
STD01 280-413853/18 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD02 280-413853/19 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD05 280-413853/20 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-413853/21		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD30 280-413853/22 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD60 280-413853/23 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-413853/24		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-413853/1		8260B							
STD01 280-413853/18 IC		8260B							
STD02 280-413853/19 IC		8260B							
STD05 280-413853/20 IC		8260B							
ICIS 280-413853/21		8260B							
STD30 280-413853/22 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 413853 Batch Start Date: 05/05/18 08:31 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
STD60 280-413853/23 IC		8260B							
ICV 280-413853/24		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 418017 Batch Start Date: 06/11/18 09:54 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00090	MV-BFB 00026
BFB 280-418017/1		8260B		1 uL	1 uL				1 uL
STD003 280-418017/12 IC		8260B		20 mL	20 mL	0.15 uL	1 uL	0.04 uL	
STD01 280-418017/13 IC		8260B		20 mL	20 mL	0.5 uL	1 uL	0.08 uL	
STD02 280-418017/14 IC		8260B		20 mL	20 mL	1 uL	1 uL	0.16 uL	
STD05 280-418017/15 IC		8260B		20 mL	20 mL	2.5 uL	1 uL	0.4 uL	
ICIS 280-418017/16		8260B		20 mL	20 mL	5 uL	1 uL	0.8 uL	
STD30 280-418017/17 IC		8260B		20 mL	20 mL	15 uL	1 uL	2.4 uL	
STD60 280-418017/18 IC		8260B		20 mL	20 mL	30 uL	1 uL	4.8 uL	
ICV 280-418017/19		8260B		20 mL	20 mL		1 uL	0.8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
BFB 280-418017/1		8260B							
STD003 280-418017/12 IC		8260B		0.15 uL		0.15 uL			
STD01 280-418017/13 IC		8260B		0.5 uL		0.5 uL			
STD02 280-418017/14 IC		8260B		1 uL		1 uL			
STD05 280-418017/15 IC		8260B		2.5 uL		2.5 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 418017 Batch Start Date: 06/11/18 09:54 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
ICIS 280-418017/16		8260B		5 uL		5 uL			
STD30 280-418017/17 IC		8260B		15 uL		15 uL			
STD60 280-418017/18 IC		8260B		30 uL		30 uL			
ICV 280-418017/19		8260B			5 uL		5 uL	5 uL	

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Freon_A 00009	Freon_B 00008	MV-2cleve+AVA 00036	MV-568718-D 00014
BFB 280-419367/1		8260B		1 uL	1 uL				
STD60 280-419367/10 IC		8260B		20 mL	20 mL			30 uL	1 uL
STD30 280-419367/11 IC		8260B		20 mL	20 mL			15 uL	1 uL
STD10 280-419367/12 IC		8260B		20 mL	20 mL			5 uL	1 uL
STD5 280-419367/13 IC		8260B		20 mL	20 mL			2.5 uL	1 uL
STD2 280-419367/14 IC		8260B		20 mL	20 mL			1 uL	1 uL
STD1 280-419367/15 IC		8260B		20 mL	20 mL			0.5 uL	1 uL
STD03 280-419367/16 IC		8260B		20 mL	20 mL			0.15 uL	1 uL
ICV 280-419367/17		8260B		20 mL	20 mL				1 uL
STD 280-419367/18 IC		8260B		20 mL	20 mL	0.5 uL			1 uL
STD 280-419367/19 IC		8260B		20 mL	20 mL	1 uL			1 uL
STD 280-419367/20 IC		8260B		20 mL	20 mL	2.5 uL			1 uL
ICIS 280-419367/21		8260B		20 mL	20 mL	5 uL			1 uL
STD 280-419367/22 IC		8260B		20 mL	20 mL	15 uL			1 uL
STD 280-419367/23 IC		8260B		20 mL	20 mL	30 uL			1 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 4



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Freon_A 00009	Freon_B 00008	MV-2cleve+AVA 00036	MV-568718-D 00014
ICV 280-419367/24		8260B		20 mL	20 mL		5 uL		1 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-ARCH SS A 00098	MV-BFB 00026	MV-Gas/Ket A 00074	MV-Gas/Ket B 00043	MV-Main A 00036	MV-Main B 00021
BFB 280-419367/1		8260B			1 uL				
STD60 280-419367/10 IC		8260B				30 uL		30 uL	
STD30 280-419367/11 IC		8260B				15 uL		15 uL	
STD10 280-419367/12 IC		8260B				5 uL		5 uL	
STD5 280-419367/13 IC		8260B				2.5 uL		2.5 uL	
STD2 280-419367/14 IC		8260B				1 uL		1 uL	
STD1 280-419367/15 IC		8260B				0.5 uL		0.5 uL	
STD03 280-419367/16 IC		8260B				0.15 uL		0.15 uL	
ICV 280-419367/17		8260B					5 uL		5 uL
STD 280-419367/18 IC		8260B		0.08 uL					
STD 280-419367/19 IC		8260B		0.16 uL					
STD 280-419367/20 IC		8260B		0.4 uL					
ICIS 280-419367/21		8260B		0.8 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 4



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-ARCH SS A 00098	MV-BFB 00026	MV-Gas/Ket A 00074	MV-Gas/Ket B 00043	MV-Main A 00036	MV-Main B 00021
STD 280-419367/22 IC		8260B		2.4 uL					
STD 280-419367/23 IC		8260B		4.8 uL					
ICV 280-419367/24		8260B		0.8 uL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-SS 2-Cleve 00044	MV-Supp A 00030	MV-Supp B 00020			
BFB 280-419367/1		8260B							
STD60 280-419367/10 IC		8260B							
STD30 280-419367/11 IC		8260B							
STD10 280-419367/12 IC		8260B							
STD5 280-419367/13 IC		8260B							
STD2 280-419367/14 IC		8260B							
STD1 280-419367/15 IC		8260B							
STD03 280-419367/16 IC		8260B							
ICV 280-419367/17		8260B		5 uL					
STD 280-419367/18 IC		8260B			0.5 uL				
STD 280-419367/19 IC		8260B			1 uL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 3 of 4



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-SS 2-Cleve 00044	MV-Supp A 00030	MV-Supp B 00020			
STD 280-419367/20 IC		8260B			2.5 uL				
ICIS 280-419367/21		8260B			5 uL				
STD 280-419367/22 IC		8260B			15 uL				
STD 280-419367/23 IC		8260B			30 uL				
ICV 280-419367/24		8260B				5 uL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 420184 Batch Start Date: 06/27/18 06:48 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-420184/1		8260B		1 uL	1 uL				1 uL
CCV 280-420184/2		8260B		20 mL	20 mL	5 uL	1 uL	1.08 uL	
CCV 280-420184/3		8260B		20 mL	20 mL		1 uL		
LCS 280-420184/4		8260B		20 mL	20 mL		1 uL	1.08 uL	
MB 280-420184/8		8260B		20 mL	20 mL		1 uL	1.08 uL	
280-110943-B-20	AFDV-149	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-B-21	AFDV-150	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-B-22	AFDV-151	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-F-3	AFDV-121	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-F-3	AFDV-121	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-D-3 MS	AFDV-121	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-F-3 MSD	AFDV-121	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-1	AFDV-104	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-1	AFDV-104	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-2	AFDV-111	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-2	AFDV-111	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-4	AFDV-130	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-4	AFDV-130	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-5	AFDV-144	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-6	AFDV-114	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-6	AFDV-114	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-7	AFDV-140	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-7	AFDV-140	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-8	AFDV-115	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-C-8	AFDV-115	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-10	AFDV-107	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-10	AFDV-107	8260B	T	20 mL	20 mL		1 uL	1.08 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 420184 Batch Start Date: 06/27/18 06:48 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
280-110943-F-12	AFDV-109	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-13	AFDV-101	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-14	AFDV-117	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-15	AFDV-113	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-15	AFDV-113	8260B	T	20 mL	20 mL		1 uL	1.08 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00029
BFB 280-420184/1		8260B							
CCV 280-420184/2		8260B		5 uL		5 uL			
CCV 280-420184/3		8260B							5 uL
LCS 280-420184/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-420184/8		8260B							
280-110943-B-20	AFDV-149	8260B	T						
280-110943-B-21	AFDV-150	8260B	T						
280-110943-B-22	AFDV-151	8260B	T						
280-110943-F-3	AFDV-121	8260B	T						
280-110943-F-3	AFDV-121	8260B	T						
280-110943-D-3	AFDV-121	8260B	T		2.5 uL		2.5 uL	2.5 uL	
MS 280-110943-F-3	AFDV-121	8260B	T		2.5 uL		2.5 uL	2.5 uL	
MSD									
280-110943-C-1	AFDV-104	8260B	T						
280-110943-C-1	AFDV-104	8260B	T						
280-110943-E-2	AFDV-111	8260B	T						
280-110943-E-2	AFDV-111	8260B	T						
280-110943-E-4	AFDV-130	8260B	T						
280-110943-E-4	AFDV-130	8260B	T						
280-110943-E-5	AFDV-144	8260B	T						
280-110943-C-6	AFDV-114	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 420184 Batch Start Date: 06/27/18 06:48 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00029
280-110943-C-6	AFDV-114	8260B	T						
280-110943-C-7	AFDV-140	8260B	T						
280-110943-C-7	AFDV-140	8260B	T						
280-110943-C-8	AFDV-115	8260B	T						
280-110943-C-8	AFDV-115	8260B	T						
280-110943-E-10	AFDV-107	8260B	T						
280-110943-E-10	AFDV-107	8260B	T						
280-110943-F-12	AFDV-109	8260B	T						
280-110943-E-13	AFDV-101	8260B	T						
280-110943-E-14	AFDV-117	8260B	T						
280-110943-E-15	AFDV-113	8260B	T						
280-110943-E-15	AFDV-113	8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 420311 Batch Start Date: 06/27/18 18:24 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-420311/1		8260B		1 uL	1 uL				1 uL
CCV 280-420311/2		8260B		20 mL	20 mL	5 uL	1 uL	0.96 uL	
CCV 280-420311/3		8260B		20 mL	20 mL		1 uL		
LCS 280-420311/4		8260B		20 mL	20 mL		1 uL	0.96 uL	
MB 280-420311/6		8260B		20 mL	20 mL		1 uL	0.96 uL	
280-110943-D-9	AFDV-138	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-110943-D-9	AFDV-138	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-110943-D-9 MS	AFDV-138	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-110943-D-9 MSD	AFDV-138	8260B	T	20 mL	20 mL		1 uL	0.96 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00074	MV-Gas/Ket B 00043	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00044	MV-Supp A 00030
BFB 280-420311/1		8260B							
CCV 280-420311/2		8260B		5 uL		5 uL			
CCV 280-420311/3		8260B							5 uL
LCS 280-420311/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-420311/6		8260B							
280-110943-D-9	AFDV-138	8260B	T						
280-110943-D-9	AFDV-138	8260B	T						
280-110943-D-9 MS	AFDV-138	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110943-D-9 MSD	AFDV-138	8260B	T		2.5 uL		2.5 uL	2.5 uL	

Batch Notes	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 420311 Batch Start Date: 06/27/18 18:24 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 420929 Batch Start Date: 07/03/18 06:45 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-420929/1		8260B		1 uL	1 uL				1 uL
CCV 280-420929/2		8260B		20 mL	20 mL	5 uL	1 uL	1.08 uL	
CCV 280-420929/3		8260B		20 mL	20 mL		1 uL		
LCS 280-420929/4		8260B		20 mL	20 mL		1 uL	1.08 uL	
MB 280-420929/8		8260B		20 mL	20 mL		1 uL	1.08 uL	
280-111257-C-5 MS	ST003-MW02	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-111257-A-5 MSD	ST003-MW02	8260B	T	20 mL	20 mL		1 uL	1.08 uL	
280-110943-E-16	AFDV-139	8260B	T	20 mL	20 mL		1 uL	1.08 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00037	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00031
BFB 280-420929/1		8260B							
CCV 280-420929/2		8260B		5 uL		5 uL			
CCV 280-420929/3		8260B							5 uL
LCS 280-420929/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-420929/8		8260B							
280-111257-C-5 MS	ST003-MW02	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-111257-A-5 MSD	ST003-MW02	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110943-E-16	AFDV-139	8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421403 Batch Start Date: 07/08/18 14:21 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00099	MV-Gas/Ket A 00075
STD03 280-421403/10 IC		8260B		20 mL	20 mL	0.15 uL	1 uL		0.15 uL
STD1 280-421403/11 IC		8260B		20 mL	20 mL	0.5 uL	1 uL		0.5 uL
STD2 280-421403/12 IC		8260B		20 mL	20 mL	1 uL	1 uL		1 uL
STD5 280-421403/13 IC		8260B		20 mL	20 mL	2.5 uL	1 uL		2.5 uL
STD10 280-421403/14 IC		8260B		20 mL	20 mL	5 uL	1 uL		5 uL
STD30 280-421403/15 IC		8260B		20 mL	20 mL	15 uL	1 uL		15 uL
STD60 280-421403/16 IC		8260B		20 mL	20 mL	30 uL	1 uL		30 uL
ICV 280-421403/17		8260B		20 mL	20 mL		1 uL		
STD1 280-421403/24 IC		8260B		20 mL	20 mL		1 uL	0.08 uL	
STD2 280-421403/25 IC		8260B		20 mL	20 mL		1 uL	0.16 uL	
STD5 280-421403/26 IC		8260B		20 mL	20 mL		1 uL	0.4 uL	
ICIS 280-421403/27		8260B		20 mL	20 mL		1 uL	0.8 uL	
STD30 280-421403/28 IC		8260B		20 mL	20 mL		1 uL	2.4 uL	
STD60 280-421403/29 IC		8260B		20 mL	20 mL		1 uL	4.8 uL	
ICV 280-421403/30		8260B		20 mL	20 mL		1 uL	0.8 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 3



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421403 Batch Start Date: 07/08/18 14:21 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00021	MV-SS 2-Cleve 00045	MV-Supp A 00031	MV-Supp B 00021
STD03 280-421403/10 IC		8260B			0.15 uL				
STD1 280-421403/11 IC		8260B			0.5 uL				
STD2 280-421403/12 IC		8260B			1 uL				
STD5 280-421403/13 IC		8260B			2.5 uL				
STD10 280-421403/14 IC		8260B			5 uL				
STD30 280-421403/15 IC		8260B			15 uL				
STD60 280-421403/16 IC		8260B			30 uL				
ICV 280-421403/17		8260B		5 uL		5 uL	5 uL		
STD1 280-421403/24 IC		8260B						0.5 uL	
STD2 280-421403/25 IC		8260B						1 uL	
STD5 280-421403/26 IC		8260B						2.5 uL	
ICIS 280-421403/27		8260B						5 uL	
STD30 280-421403/28 IC		8260B						15 uL	
STD60 280-421403/29 IC		8260B						30 uL	
ICV 280-421403/30		8260B							5 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 3



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421403 Batch Start Date: 07/08/18 14:21 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 422211 Batch Start Date: 07/13/18 21:41 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00099	MV-BFB 00026
BFB 280-422211/1		8260B		1 uL	1 uL				1 uL
CCV 280-422211/2		8260B		20 mL	20 mL	5 uL	1 uL	0.88 uL	
CCV 280-422211/3		8260B		20 mL	20 mL		1 uL		
LCS 280-422211/4		8260B		20 mL	20 mL		1 uL	0.88 uL	
MB 280-422211/6		8260B		20 mL	20 mL		1 uL	0.88 uL	
550-105667-C-1 MS		8260B	T	20 mL	20 mL		1 uL	0.88 uL	
550-105667-C-1 MSD		8260B	T	20 mL	20 mL		1 uL	0.88 uL	
280-110943-C-17	AFDV-141	8260B	T	20 mL	20 mL		1 uL	0.88 uL	
280-110943-C-17	AFDV-141	8260B	T	20 mL	20 mL		1 uL	0.88 uL	
280-110943-D-18	AFDV-142	8260B	T	20 mL	20 mL		1 uL	0.88 uL	
280-110943-D-18	AFDV-142	8260B	T	20 mL	20 mL		1 uL	0.88 uL	
280-110943-A-19	AFDV-105	8260B	T	20 mL	20 mL		1 uL	0.88 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00075	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00021	MV-SS 2-Cleve 00045	MV-Supp A 00031
BFB 280-422211/1		8260B							
CCV 280-422211/2		8260B		5 uL		5 uL			
CCV 280-422211/3		8260B							5 uL
LCS 280-422211/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-422211/6		8260B							
550-105667-C-1 MS		8260B	T		2.5 uL		2.5 uL	2.5 uL	
550-105667-C-1 MSD		8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-110943-C-17	AFDV-141	8260B	T						
280-110943-C-17	AFDV-141	8260B	T						
280-110943-D-18	AFDV-142	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 422211 Batch Start Date: 07/13/18 21:41 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00075	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00021	MV-SS 2-Cleve 00045	MV-Supp A 00031
280-110943-D-18	AFDV-142	8260B	T						
280-110943-A-19	AFDV-105	8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



# Method RSK-175

---

Dissolved Gases (GC) by Method  
RSK\_175



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 06240005.D  
Lab ID: LCS 280-419946/5 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	146	128	88	75-125	
Ethene	255	244	96	75-125	
Ethane	274	266	97	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water Level: Low Lab File ID: 06260005.D

Lab ID: LCS 280-420106/5 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	146	143	98	75-125	
Ethene	255	265	104	75-125	
Ethane	274	295	108	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06240006.D  
 Lab ID: LCSD 280-419946/6 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	146	135	93	5	20	75-125	
Ethene	255	254	99	4	20	75-125	
Ethane	274	280	102	5	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06260006.D  
 Lab ID: LCSD 280-420106/6 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	146	148	101	3	20	75-125	
Ethene	255	271	106	2	20	75-125	
Ethane	274	302	111	3	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 06240021.D  
Lab ID: 280-110943-3 MS Client ID: AFDV-121 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	146	400	584	123	52-145	
Ethene	255	32	279	97	75-131	
Ethane	274	31	309	102	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 06260021.D  
Lab ID: 280-111004-J-6 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	146	18000	16400	-923	52-145	E 4
Ethene	255	8.8	235	89	75-131	
Ethane	274	3.0 J	260	94	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06240022.D  
 Lab ID: 280-110943-3 MSD Client ID: AFDV-121 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	146	562	108	4	20	52-145	
Ethene	255	268	93	4	20	75-131	
Ethane	274	296	97	4	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 06260022.D  
 Lab ID: 280-111004-J-6 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	146	14800	-2016	10	20	52-145	E 4
Ethene	255	168	63	33	20	75-131	F2 F1
Ethane	274	259	93	1	20	75-125	

# Column to be used to flag recovery and RPD values



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 280-419946/4  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 06240004.D Lab File ID: (2) 06240004.D  
 Date Analyzed: (1) 06/25/2018 15:52 Date Analyzed: (2) 06/25/2018 15:52  
 Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
 GC Column: (1) HP-Plot Q ID: 0.53 (mm) GC Column: (2) Rt-Alumina K ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1		DATE ANALYZED 2	
	LCS 280-419946/5	06/25/2018	16:06	06/25/2018	16:06
	LCSD 280-419946/6	06/25/2018	16:20	06/25/2018	16:20
AFDV-121	280-110943-3	06/25/2018	19:42	06/25/2018	19:42
AFDV-121 DU	280-110943-3 DU	06/25/2018	19:56	06/25/2018	19:56
AFDV-121 MS	280-110943-3 MS	06/25/2018	20:10	06/25/2018	20:10
AFDV-121 MSD	280-110943-3 MSD	06/25/2018	20:24	06/25/2018	20:24
AFDV-130	280-110943-4	06/25/2018	21:47	06/25/2018	21:47
AFDV-144	280-110943-5	06/25/2018	22:01	06/25/2018	22:01
AFDV-109	280-110943-12	06/25/2018	22:15	06/25/2018	22:15
AFDV-101	280-110943-13	06/25/2018	22:29	06/25/2018	22:29



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 280-420106/4  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 06260004.D Lab File ID: (2) 06260004.D  
 Date Analyzed: (1) 06/26/2018 13:35 Date Analyzed: (2) 06/26/2018 13:35  
 Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
 GC Column: (1) HP-Plot Q ID: 0.53 (mm) GC Column: (2) Rt-Alumina K ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1		DATE ANALYZED 2	
	LCS 280-420106/5	06/26/2018	13:49	06/26/2018	13:49
	LCSD 280-420106/6	06/26/2018	14:03	06/26/2018	14:03
AFDV-117	280-110943-14	06/26/2018	14:17	06/26/2018	14:17
AFDV-117 DU	280-110943-14 DU	06/26/2018	14:32	06/26/2018	14:32
	280-111004-J-6 MS	06/26/2018	17:49	06/26/2018	17:49
	280-111004-J-6 MSD	06/26/2018	18:03	06/26/2018	18:03
AFDV-130	280-110943-4	06/26/2018	21:56	06/26/2018	21:56



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-121 Lab Sample ID: 280-110943-3  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 19:42 Date Analyzed (2): 06/25/2018 19:42  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.63	1.71	400		3.1
	2		1.25	1.22	1.30	420		
Ethene	1		2.47	2.43	2.53	32		2.5
	2		1.82	1.81	1.91	33		
Ethane	1		2.85	2.81	2.91	31		2.3
	2		1.51	1.48	1.58	32		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-121 MS Lab Sample ID: 280-110943-3 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 20:10 Date Analyzed (2): 06/25/2018 20:10  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.63	1.71	584		3.3
	2		1.25	1.22	1.30	603		
Ethene	1		2.47	2.43	2.53	279		3.1
	2		1.82	1.81	1.91	288		
Ethane	1		2.85	2.81	2.91	309		2.8
	2		1.51	1.48	1.58	318		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-121 MSD Lab Sample ID: 280-110943-3 MSD  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 20:24 Date Analyzed (2): 06/25/2018 20:24  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.63	1.71	562		3.2
	2		1.25	1.22	1.30	580		
Ethene	1		2.47	2.43	2.53	268		3.0
	2		1.82	1.81	1.91	277		
Ethane	1		2.85	2.81	2.91	296		2.7
	2		1.51	1.48	1.58	304		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-121 DU Lab Sample ID: 280-110943-3 DU  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 19:56 Date Analyzed (2): 06/25/2018 19:56  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.63	1.71	385		2.9
	2		1.25	1.22	1.30	396		
Ethene	1		2.47	2.43	2.53	30.5		2.4
	2		1.82	1.81	1.91	31.2		
Ethane	1		2.85	2.81	2.91	29.7		2.2
	2		1.51	1.48	1.58	30.3		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-130 Lab Sample ID: 280-110943-4  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 21:47 Date Analyzed (2): 06/25/2018 21:47  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.63	1.71	7300		3.7
	2		1.25	1.22	1.30	7600		
Ethane	1		2.83	2.81	2.91	2700		3.5
	2		1.51	1.48	1.58	2800		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-130 Lab Sample ID: 280-110943-4  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 21:56 Date Analyzed (2): 06/26/2018 21:56  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.64	1.72	5800		0.5
	2		1.26	1.22	1.30	5800		
Ethane	1		2.85	2.81	2.91	2000		0.3
	2		1.53	1.49	1.59	2000		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-144 Lab Sample ID: 280-110943-5  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 22:01 Date Analyzed (2): 06/25/2018 22:01  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.63	1.71	0.64		2.8
	2		1.25	1.22	1.30	0.62		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-109 Lab Sample ID: 280-110943-12  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 22:15 Date Analyzed (2): 06/25/2018 22:15  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.65	1.63	1.71	0.58		5.4
	2		1.26	1.22	1.30	0.55		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-101 Lab Sample ID: 280-110943-13  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 22:29 Date Analyzed (2): 06/25/2018 22:29  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.64	1.63	1.71	0.62		0.7
	2		1.25	1.22	1.30	0.63		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-117 Lab Sample ID: 280-110943-14  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 14:17 Date Analyzed (2): 06/26/2018 14:17  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	94		2.8
	2		1.25	1.22	1.30	97		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-117 DU Lab Sample ID: 280-110943-14 DU  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 14:32 Date Analyzed (2): 06/26/2018 14:32  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.64	1.72	83.2		2.9
	2		1.25	1.22	1.30	85.6		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-419946/5  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 16:06 Date Analyzed (2): 06/25/2018 16:06  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.63	1.71	128		0.5
	2		1.26	1.22	1.30	129		
Ethene	1		2.47	2.43	2.53	244		0.8
	2		1.85	1.81	1.91	246		
Ethane	1		2.85	2.81	2.91	266		0.4
	2		1.53	1.48	1.58	267		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-419946/6  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/25/2018 16:20 Date Analyzed (2): 06/25/2018 16:20  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.63	1.71	135		0.4
	2		1.25	1.22	1.30	136		
Ethene	1		2.48	2.43	2.53	254		0.7
	2		1.85	1.81	1.91	256		
Ethane	1		2.85	2.81	2.91	280		0.3
	2		1.53	1.48	1.58	281		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420106/4  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 13:35 Date Analyzed (2): 06/26/2018 13:35  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.65	1.64	1.72	0.584		2.4
	2		1.26	1.22	1.30	0.571		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420106/5  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 13:49 Date Analyzed (2): 06/26/2018 13:49  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.66	1.64	1.72	143		0.0
	2		1.26	1.22	1.30	143		
Ethene	1		2.48	2.43	2.53	265		0.4
	2		1.85	1.80	1.90	266		
Ethane	1		2.85	2.81	2.91	295		0.0
	2		1.54	1.49	1.59	295		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-420106/6  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 14:03 Date Analyzed (2): 06/26/2018 14:03  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.67	1.64	1.72	148		0.0
	2		1.25	1.22	1.30	148		
Ethene	1		2.48	2.43	2.53	271		0.5
	2		1.85	1.80	1.90	273		
Ethane	1		2.85	2.81	2.91	302		0.1
	2		1.53	1.49	1.59	303		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111004-J-6 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 17:49 Date Analyzed (2): 06/26/2018 17:49  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.64	1.64	1.72	16400		2.6
	2		1.24	1.22	1.30	16800		
Ethene	1		2.46	2.43	2.53	235		2.9
	2		1.81	1.80	1.90	242		
Ethane	1		2.84	2.81	2.91	260		3.1
	2		1.50	1.49	1.59	268		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111004-J-6 MSD  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 06/26/2018 18:03 Date Analyzed (2): 06/26/2018 18:03  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.64	1.64	1.72	14800		2.6
	2		1.24	1.22	1.30	15200		
Ethene	1		2.46	2.43	2.53	168		37.2
	2		1.81	1.80	1.90	245		
Ethane	1		2.84	2.81	2.91	259		2.9
	2		1.51	1.49	1.59	266		



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-121 Lab Sample ID: 280-110943-3  
Matrix: Water Lab File ID: 06240019.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:05  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 19:42  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	400		5.0	0.22
74-85-1	Ethene	32		5.0	0.40
74-84-0	Ethane	31		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-130 Lab Sample ID: 280-110943-4  
Matrix: Water Lab File ID: 06240028.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:00  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 21:47  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	7300		5.0	0.22
74-85-1	Ethene	ND		5.0	0.40



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-130 Lab Sample ID: 280-110943-4  
Matrix: Water Lab File ID: 06260035.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:00  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 21:56  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	2000		90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-144 Lab Sample ID: 280-110943-5  
Matrix: Water Lab File ID: 06240029.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 12:00  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 22:01  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.64	J	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-109 Lab Sample ID: 280-110943-12  
Matrix: Water Lab File ID: 06240030.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:05  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 22:15  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.58	J	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-101 Lab Sample ID: 280-110943-13  
Matrix: Water Lab File ID: 06240031.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:15  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 22:29  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.62	J	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-117 Lab Sample ID: 280-110943-14  
Matrix: Water Lab File ID: 06260007.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 11:40  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 14:17  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	94	B	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32648

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane		1.251	1.249	1.246	1.251	1.246	1.247	1.244			1.211 - 1.291	1.248
Ethane	1.505	1.527	1.526	1.490	1.522	1.520	1.527	1.523			1.472 - 1.572	1.518
Ethene	1.841	1.836	1.839	1.817	1.841	1.835	1.839	1.835			1.791 - 1.891	1.835
Propane	2.590	2.585	2.586	2.586	2.586	2.581	2.572	2.569			2.526 - 2.646	2.582
Acetylene	4.075	4.074	4.075	4.073	4.065	4.058	4.044	4.047			3.985 - 4.145	4.064
Butane	4.375	4.374	4.375	4.373	4.364	4.353	4.333	4.337			4.284 - 4.444	4.361
isobutylene	5.300	5.300	5.300	5.299	5.290	5.282	5.266	5.270			5.210 - 5.370	5.288



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32648

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	94871	118419 119809	109894 117642	123113 126897	Lin1	-27283.709	122279.919							1.0000		0.9900
Ethane	54734 89791	72413 102067	86019 113919	62644 115010	Lin1	-90569.650	109831.747							0.9930		0.9900
Ethene	44372 75266	60135 84900	70878 93762	59512 92230	Lin1	-64351.025	89964.8945							0.9950		0.9900
Propane	57322 94636	77768 109275	91665 121201	76859 122454	Lin1	-135245.87	117068.598							0.9930		0.9900
Acetylene	15461 28252	22045 31244	25568 34064	20997 33788	Lin1	-22338.432	32908.5151							0.9950		0.9900
Butane	61780 98436	83241 113975	96155 125964	81030 127588	Lin1	-179515.84	121857.749							0.9940		0.9900
isobutylene	43772 68179	57239 77869	66313 85458	54220 85564	Lin1	-112902.75	82529.5081							0.9940		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32648

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Lin1	883449000	108062 42941234	200566 266350636	1781465136	6925875	7374	0.913 365	1.83 2099	14470	73.0
Ethane	Lin1	50562 27936979	123876 77952000	294305 62959111	1714638	12288331	0.924 274	1.71 684	3.42 547	27.4	137
Ethene	Lin1	38238 21677751	95965 59851517	226218 47098556	1519542	9608961	0.862 255	1.60 638	3.19 511	25.5	128
Propane	Lin1	77660 43865241	195112 121631906	459953 98311240	3085276	18994401	1.35 401	2.51 1004	5.02 803	40.1	201
Acetylene	Lin1	12369 7406183	32661 20186957	75759 16018496	497712	3348510	0.800 237	1.48 593	2.96 474	23.7	119
Butane	Lin1	110310 60297724	275238 166601866	635880 134999771	4286824	26038425	1.79 529	3.31 1323	6.61 1058	52.9	265
isobutylene	Lin1	75455 39772095	182721 109120320	423371 87404315	2769315	17411477	1.72 511	3.19 1277	6.38 1022	51.1	255

Curve Type Legend:

Lin1 = Linear 1/conc



## Calibration

/ Methane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

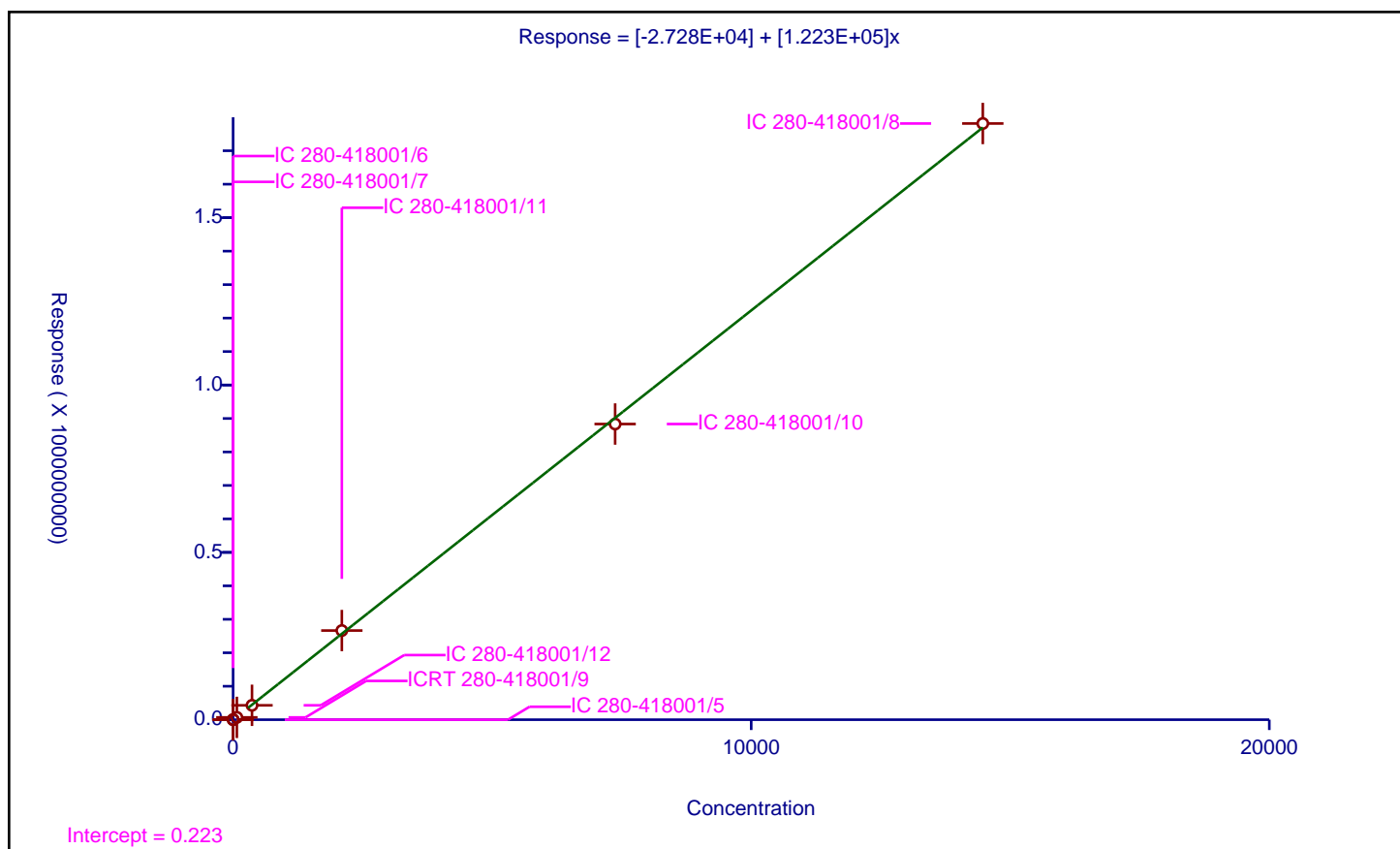
### Curve Coefficients

Intercept: -2.728E+04  
 Slope: 1.223E+05

### Error Coefficients

Standard Error: 10800000  
 Relative Standard Error: 14.0  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.492773	0.0			0.0	N
2	IC 280-418001/6	0.912542	108062.0			118418.702338	Y
3	IC 280-418001/7	1.825083	200566.0			109894.160086	Y
4	ICRT 280-418001/9	73.003333	6925875.0			94870.668006	Y
5	IC 280-418001/12	365.016667	42941234.0			117641.844665	Y
6	IC 280-418001/11	2098.957778	266350636.0			126896.61451	Y
7	IC 280-418001/10	7373.784444	883449000.0			119809.442038	Y
8	IC 280-418001/8	14470.156222	1781465136.0			123113.054803	Y





## Calibration

/ Ethane

**Curve Type:** Linear  
**Weighting:** Conc  
**Origin:** None  
**Dependency:** Response  
**Calib Mode:** ESTD  
**Response Base:**  
**RF Rounding:** 0

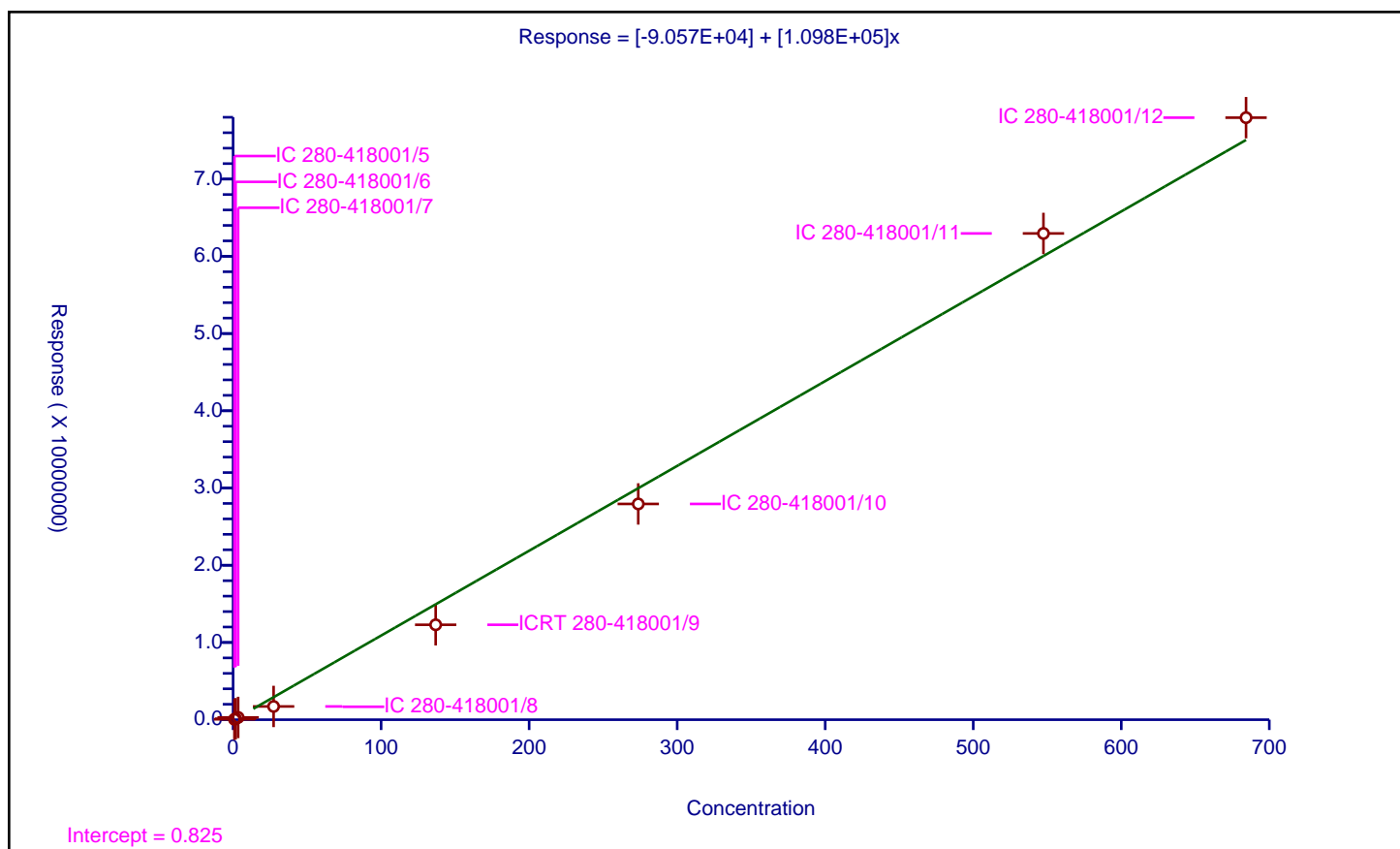
### Curve Coefficients

**Intercept:** -9.057E+04  
**Slope:** 1.098E+05

### Error Coefficients

**Standard Error:** 2220000  
**Relative Standard Error:** 24.9  
**Correlation Coefficient:** 0.998  
**Coefficient of Determination (Adjusted):** 0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.923775	50562.0			54734.107331	Y
2	IC 280-418001/6	1.710694	123876.0			72412.697899	Y
3	IC 280-418001/7	3.421389	294305.0			86019.16051	Y
4	IC 280-418001/8	27.371111	1714638.0			62644.077292	Y
5	ICRT 280-418001/9	136.855556	12288331.0			89790.516359	Y
6	IC 280-418001/10	273.711111	27936979.0			102067.391004	Y
7	IC 280-418001/11	547.422222	62959111.0			115010.148372	Y
8	IC 280-418001/12	684.277778	77952000.0			113918.649022	Y





# Calibration

/ Ethylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

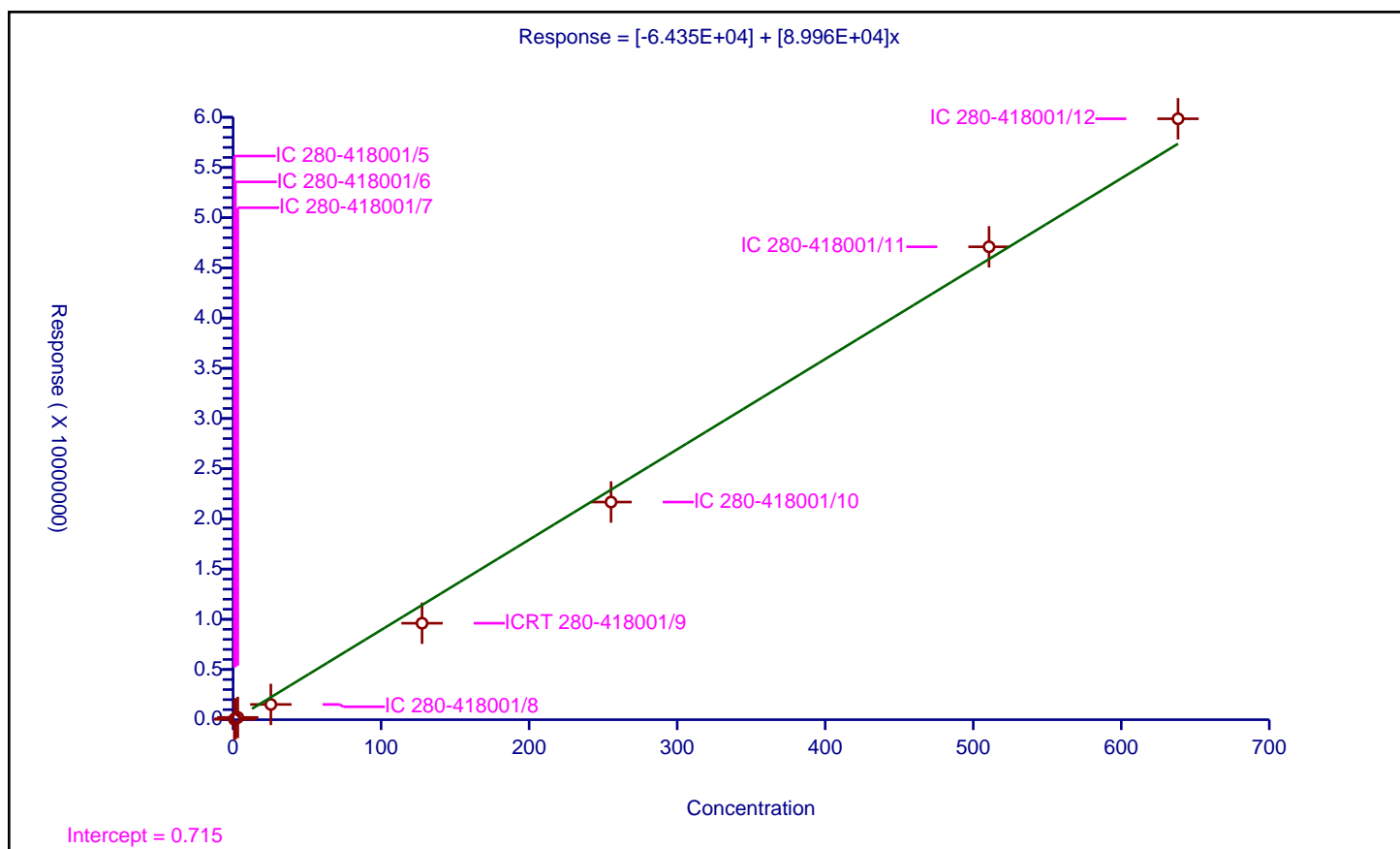
## Curve Coefficients

Intercept: -6.435E+04  
 Slope: 8.996E+04

## Error Coefficients

Standard Error: 1470000  
 Relative Standard Error: 20.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.86175	38238.0			44372.497824	Y
2	IC 280-418001/6	1.595833	95965.0			60134.72585	Y
3	IC 280-418001/7	3.191667	226218.0			70877.702349	Y
4	IC 280-418001/8	25.533333	1519542.0			59512.088773	Y
5	ICRT 280-418001/9	127.666667	9608961.0			75266.013055	Y
6	IC 280-418001/10	255.333333	21677751.0			84899.808094	Y
7	IC 280-418001/11	510.666667	47098556.0			92229.548303	Y
8	IC 280-418001/12	638.333333	59851517.0			93762.167624	Y





# Calibration

/ Propane

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

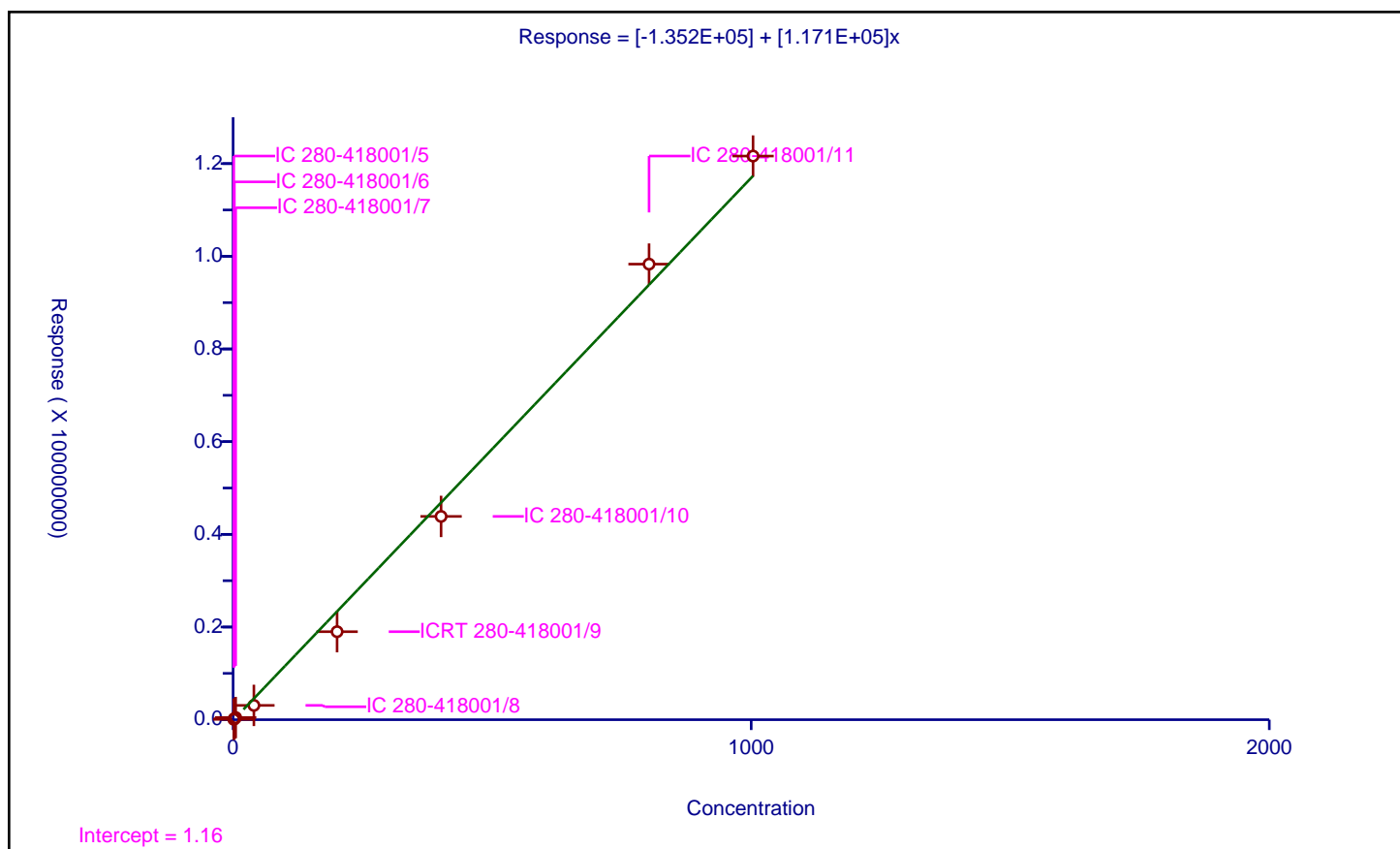
## Curve Coefficients

Intercept: -1.352E+05  
Slope: 1.171E+05

## Error Coefficients

Standard Error: 3380000  
Relative Standard Error: 21.4  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.3548	77660.0			57322.113965	Y
2	IC 280-418001/6	2.508889	195112.0			77768.290522	Y
3	IC 280-418001/7	5.017778	459953.0			91664.681133	Y
4	IC 280-418001/8	40.142222	3085276.0			76858.624889	Y
5	ICRT 280-418001/9	200.711111	18994401.0			94635.52314	Y
6	IC 280-418001/10	401.422222	43865241.0			109274.570693	Y
7	IC 280-418001/11	802.844444	98311240.0			122453.659212	Y
8	IC 280-418001/12	1003.555556	121631906.0			121200.969221	Y





# Calibration

/ Acetylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

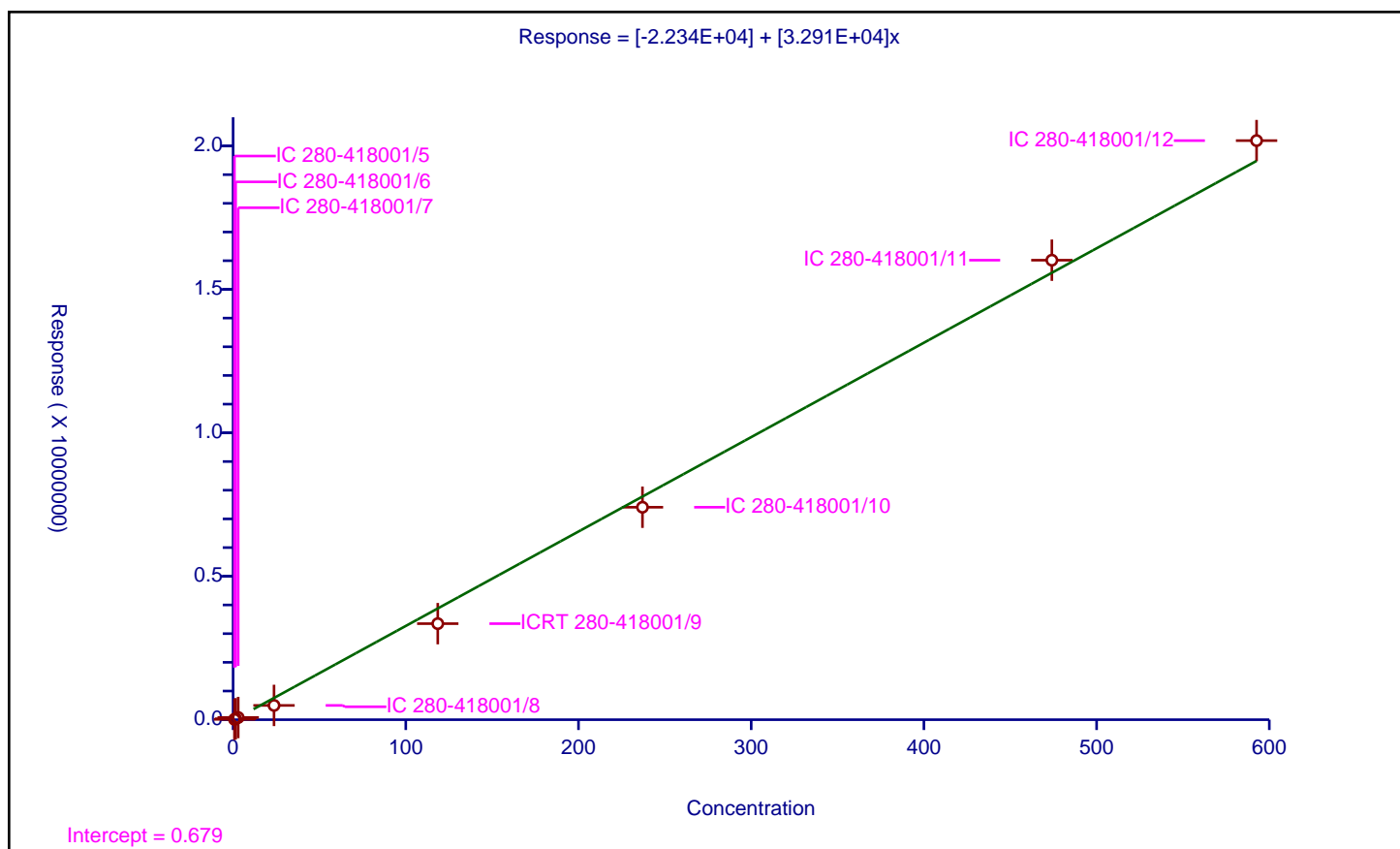
## Curve Coefficients

Intercept: -2.234E+04  
 Slope: 3.291E+04

## Error Coefficients

Standard Error: 443000  
 Relative Standard Error: 20.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.800025	12369.0			15460.766851	Y
2	IC 280-418001/6	1.481528	32661.0			22045.486078	Y
3	IC 280-418001/7	2.963056	75759.0			25567.863504	Y
4	IC 280-418001/8	23.704444	497712.0			20996.568857	Y
5	ICRT 280-418001/9	118.522222	3348510.0			28252.170245	Y
6	IC 280-418001/10	237.044444	7406183.0			31243.858161	Y
7	IC 280-418001/11	474.088889	16018496.0			33787.959126	Y
8	IC 280-418001/12	592.611111	20186957.0			34064.425424	Y





## Calibration

/ Butane

**Curve Type:** Linear  
**Weighting:** Conc  
**Origin:** None  
**Dependency:** Response  
**Calib Mode:** ESTD  
**Response Base:**  
**RF Rounding:** 0

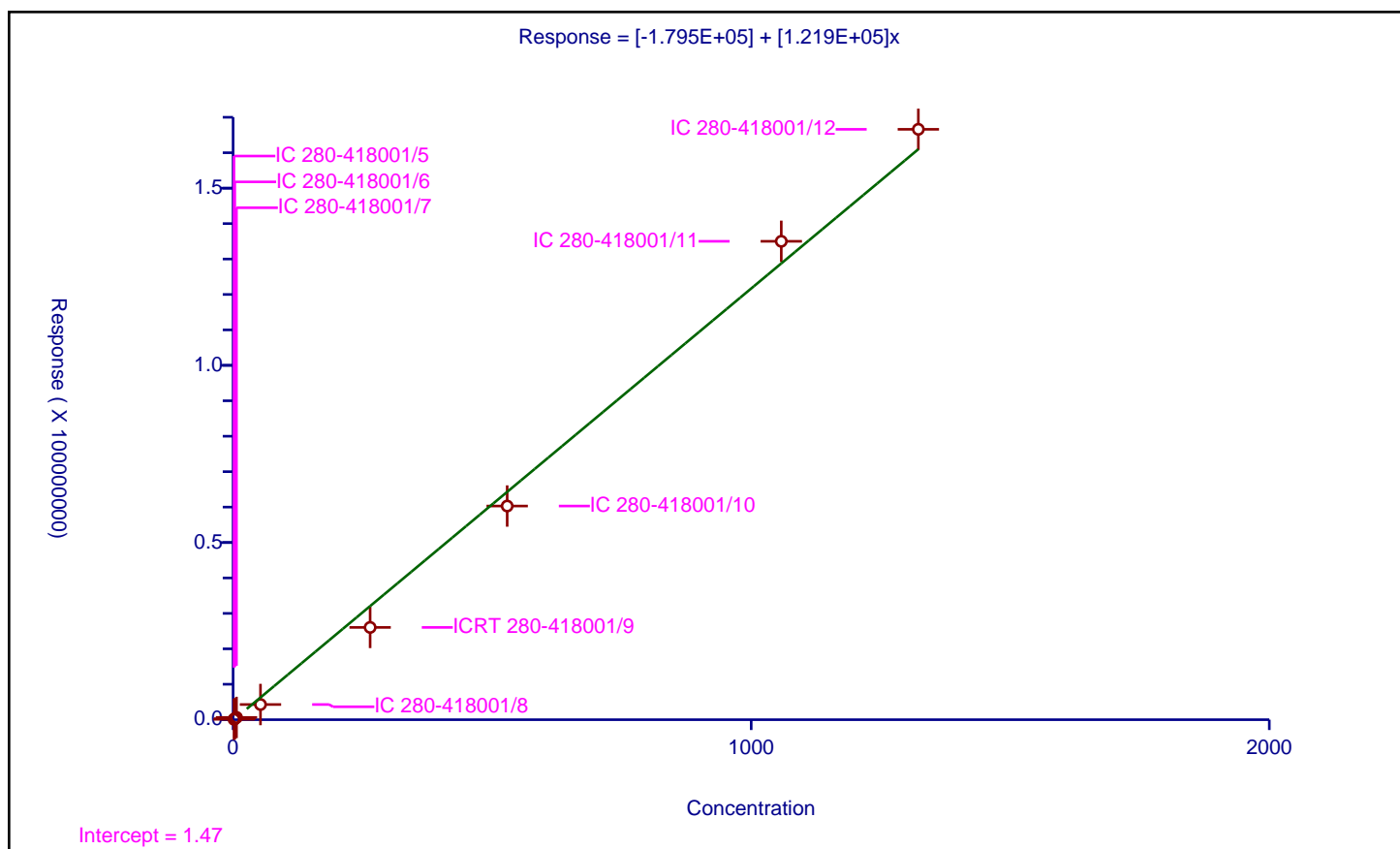
### Curve Coefficients

**Intercept:** -1.795E+05  
**Slope:** 1.219E+05

### Error Coefficients

**Standard Error:** 4590000  
**Relative Standard Error:** 21.0  
**Correlation Coefficient:** 0.998  
**Coefficient of Determination (Adjusted):** 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.785525	110310.0			61780.148696	Y
2	IC 280-418001/6	3.306528	275238.0			83240.794724	Y
3	IC 280-418001/7	6.613056	635880.0			96155.248456	Y
4	IC 280-418001/8	52.904444	4286824.0			81029.562734	Y
5	ICRT 280-418001/9	264.522222	26038425.0			98435.680682	Y
6	IC 280-418001/10	529.044444	60297724.0			113974.779687	Y
7	IC 280-418001/11	1058.088889	134999771.0			127588.307956	Y
8	IC 280-418001/12	1322.611111	166601866.0			125964.362918	Y





## Calibration

/ isobutylene

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

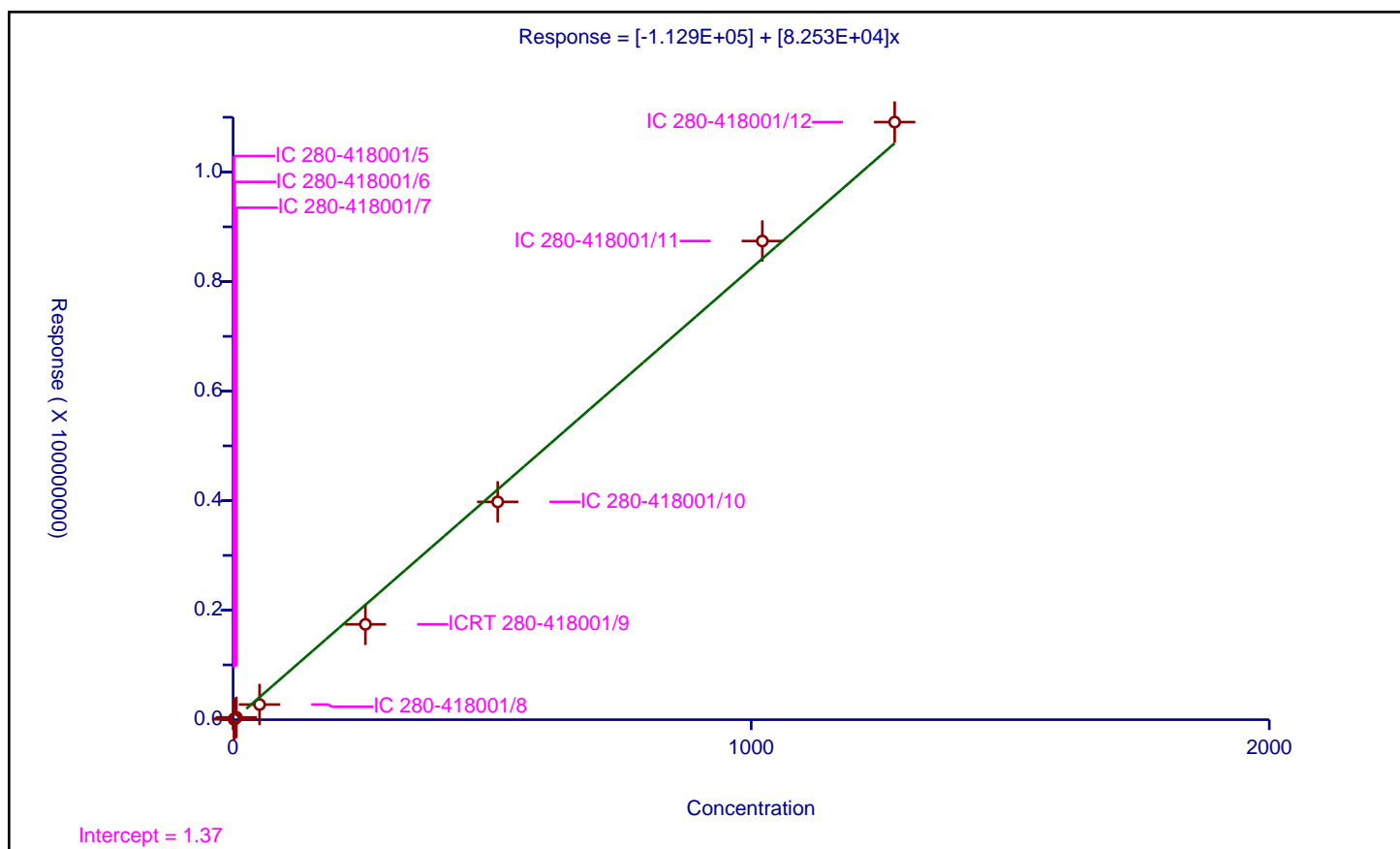
## Curve Coefficients

Intercept: -1.129E+05  
Slope: 8.253E+04

## Error Coefficients

Standard Error: 2730000  
Relative Standard Error: 20.6  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.7238	75455.0			43772.479406	Y
2	IC 280-418001/6	3.192222	182721.0			57239.43613	Y
3	IC 280-418001/7	6.384444	423371.0			66312.895928	Y
4	IC 280-418001/8	51.075556	2769315.0			54219.968239	Y
5	ICRT 280-418001/9	255.377778	17411477.0			68179.295597	Y
6	IC 280-418001/10	510.755556	39772095.0			77869.138314	Y
7	IC 280-418001/11	1021.511111	87404315.0			85563.7438	Y
8	IC 280-418001/12	1276.888889	109120320.0			85457.96032	Y





FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418001  
SDG No.: \_\_\_\_\_  
Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32649

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane		1.654	1.655	1.644	1.670	1.659	1.669	1.658			1.630 - 1.710	1.658
Ethene	2.467	2.470	2.468	2.464	2.467	2.463	2.466	2.463			2.417 - 2.517	2.466
Acetylene	2.610	2.610	2.606	2.602	2.602	2.599	2.600	2.598			2.522 - 2.682	2.603
Ethane	2.850	2.847	2.842	2.842	2.844	2.840	2.840	2.836			2.794 - 2.894	2.843
Propane	4.670	4.669	4.669	4.668	4.666	4.661	4.651	4.652			4.606 - 4.726	4.663
isobutylene	5.983	5.982	5.982	5.980	5.977	5.972	5.962	5.964			5.897 - 6.057	5.975
Butane	6.137	6.136	6.136	6.134	6.131	6.124	6.110	6.114			6.051 - 6.211	6.128



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32649

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	81302	97112 102781	91885 100418	106035 108325	Lin1	-28792.615	105097.085							1.0000		0.9900
Ethene	38127 64139	51074 72518	60260 79782	50394 80211	Lin1	-56097.843	77173.1012							0.9940		0.9900
Acetylene	16059 24455	18527 26953	21253 29597	17553 29316	Lin1	-19170.867	28526.2566							0.9950		0.9900
Ethane	44799 76635	60869 87894	72177 97031	60379 98235	Lin1	-76263.692	93914.8411							0.9940		0.9900
Propane	48411 80927	65610 93541	77510 103371	65618 104748	Lin1	-117074.45	100025.060							0.9940		0.9900
isobutylene	35954 57330	48078 65431	55703 71632	45821 71729	Lin1	-94821.571	69227.6609							0.9950		0.9900
Butane	54166 83641	69925 97108	81491 106967	68725 108365	Lin1	-151856.79	103539.491							0.9940		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-110943-1 Analy Batch No.: 418001

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/10/2018 20:09 Calibration End Date: 06/10/2018 21:48 Calibration ID: 32649

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-418001/5	06100005.D
Level 2	IC 280-418001/6	06100006.D
Level 3	IC 280-418001/7	06100007.D
Level 4	IC 280-418001/8	06100008.D
Level 5	ICRT 280-418001/9	06100009.D
Level 6	IC 280-418001/10	06100010.D
Level 7	IC 280-418001/12	06100012.D
Level 8	IC 280-418001/11	06100011.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Lin1	757886603	88619 36654270	167698 227369522	1534347638	5935285	7374	0.913 365	1.83 2099	14470	73.0
Ethene	Lin1	32856 18516218	81505 50927648	192330 40961219	1286715	8188374	0.862 255	1.60 638	3.19 511	25.5	128
Acetylene	Lin1	12848 6389018	27448 17539254	62975 13898273	416087	2898482	0.800 237	1.48 593	2.96 474	23.7	119
Ethane	Lin1	41384 24057655	104129 66395950	246946 53775812	1652633	10487883	0.924 274	1.71 684	3.42 547	27.4	137
Propane	Lin1	65587 37549613	164608 103738850	388926 84096078	2634066	16242964	1.35 401	2.51 1004	5.02 803	40.1	201
isobutylene	Lin1	61977 33419253	153475 91466230	355630 73272403	2340345	14640735	1.72 511	3.19 1277	6.38 1022	51.1	255
Butane	Lin1	96715 51374450	231210 141475092	538902 114659503	3635858	22125012	1.79 529	3.31 1323	6.61 1058	52.9	265

Curve Type Legend:

Lin1 = Linear 1/conc



# Calibration

/ Methane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

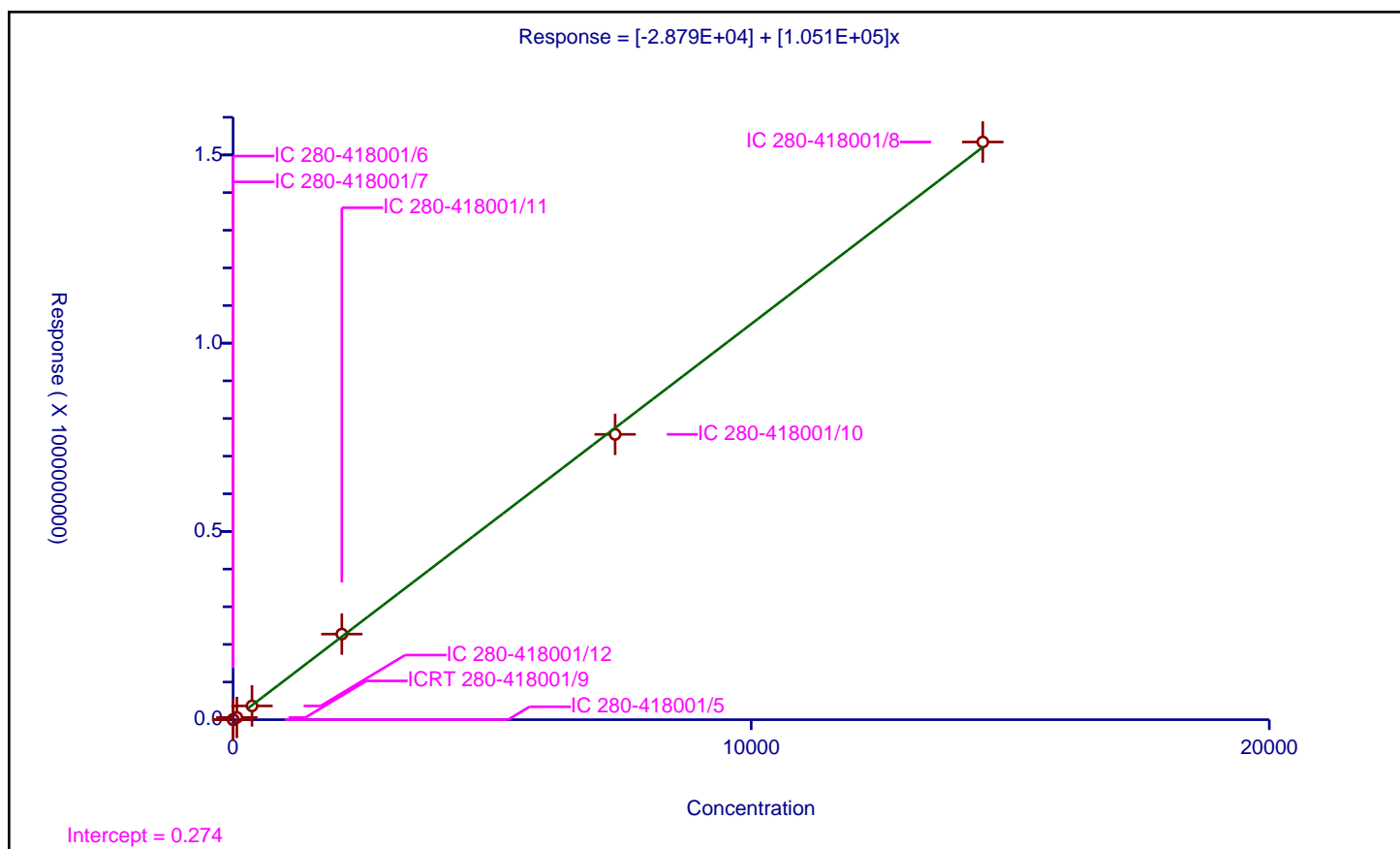
## Curve Coefficients

Intercept: -2.879E+04  
 Slope: 1.051E+05

## Error Coefficients

Standard Error: 10300000  
 Relative Standard Error: 14.4  
 Correlation Coefficient: 1.000  
 Coefficient of Determination (Adjusted): 1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.492773	0.0			0.0	N
2	IC 280-418001/6	0.912542	88619.0			97112.277975	Y
3	IC 280-418001/7	1.825083	167698.0			91885.119403	Y
4	ICRT 280-418001/9	73.003333	5935285.0			81301.561573	Y
5	IC 280-418001/12	365.016667	36654270.0			100418.072234	Y
6	IC 280-418001/11	2098.957778	227369522.0			108324.96223	Y
7	IC 280-418001/10	7373.784444	757886603.0			102781.225666	Y
8	IC 280-418001/8	14470.156222	1534347638.0			106035.319484	Y





## Calibration

/ Ethylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

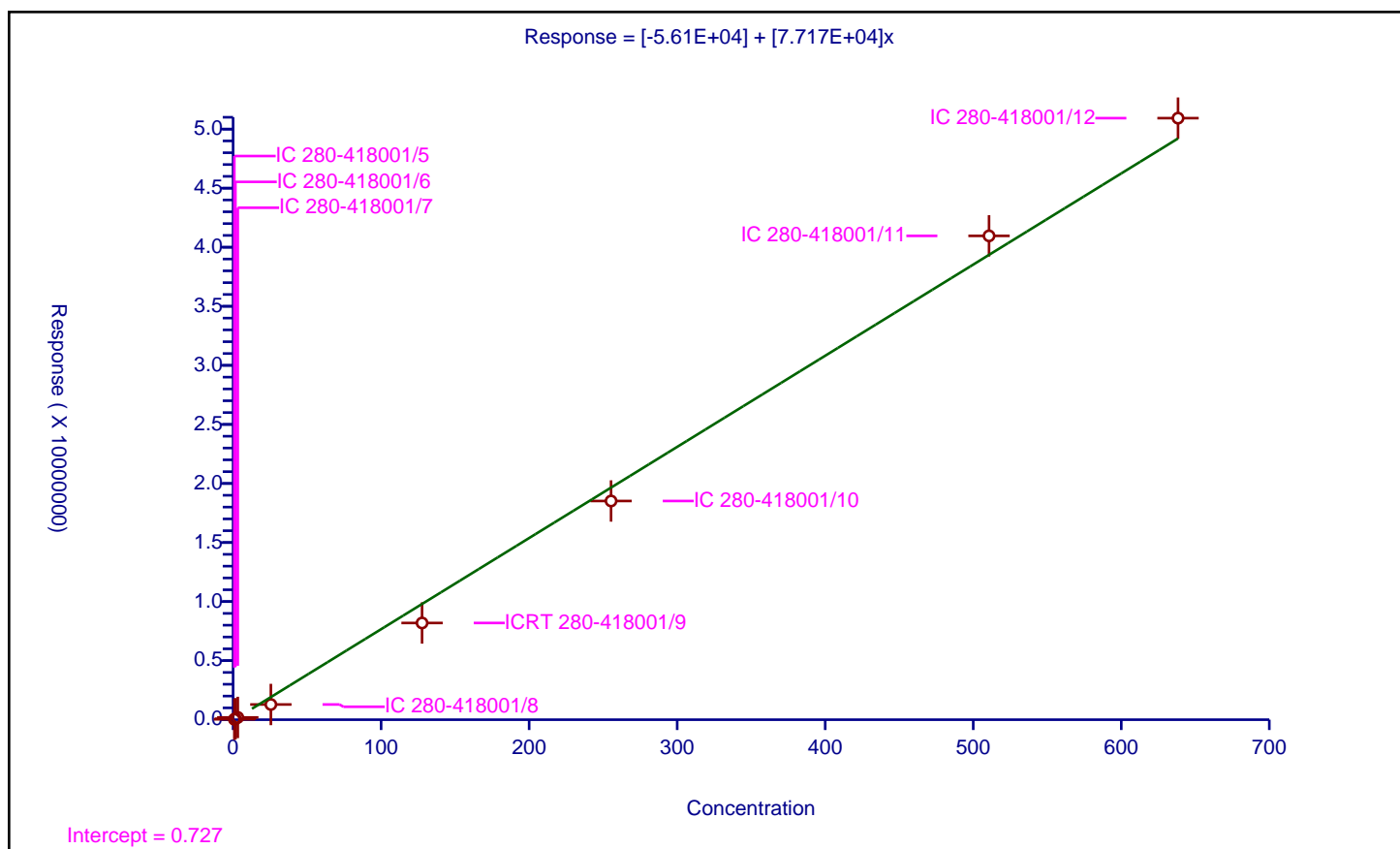
### Curve Coefficients

Intercept: -5.61E+04  
 Slope: 7.717E+04

### Error Coefficients

Standard Error: 1280000  
 Relative Standard Error: 20.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.86175	32856.0			38127.067015	Y
2	IC 280-418001/6	1.595833	81505.0			51073.629244	Y
3	IC 280-418001/7	3.191667	192330.0			60260.052219	Y
4	IC 280-418001/8	25.533333	1286715.0			50393.537859	Y
5	ICRT 280-418001/9	127.666667	8188374.0			64138.699739	Y
6	IC 280-418001/10	255.333333	18516218.0			72517.825065	Y
7	IC 280-418001/11	510.666667	40961219.0			80211.26436	Y
8	IC 280-418001/12	638.333333	50927648.0			79782.216188	Y





# Calibration

/ Acetylene

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

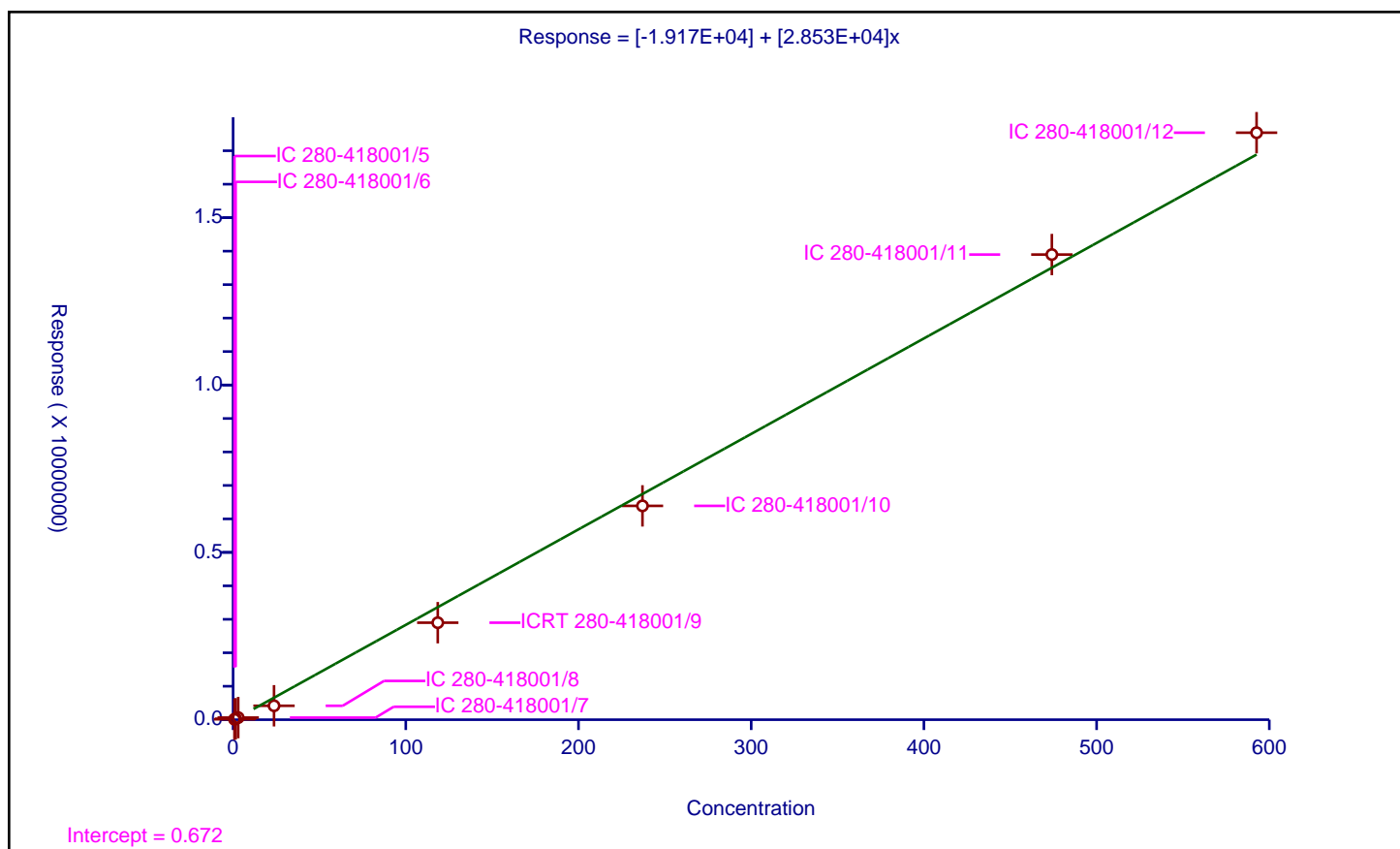
## Curve Coefficients

Intercept: -1.917E+04  
Slope: 2.853E+04

## Error Coefficients

Standard Error: 404000  
Relative Standard Error: 23.3  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.800025	12848.0			16059.498141	Y
2	IC 280-418001/6	1.481528	27448.0			18526.821037	Y
3	IC 280-418001/7	2.963056	62975.0			21253.398331	Y
4	IC 280-418001/8	23.704444	416087.0			17553.121777	Y
5	ICRT 280-418001/9	118.522222	2898482.0			24455.177651	Y
6	IC 280-418001/10	237.044444	6389018.0			26952.827412	Y
7	IC 280-418001/11	474.088889	13898273.0			29315.753492	Y
8	IC 280-418001/12	592.611111	17539254.0			29596.566232	Y





## Calibration

/ Ethane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

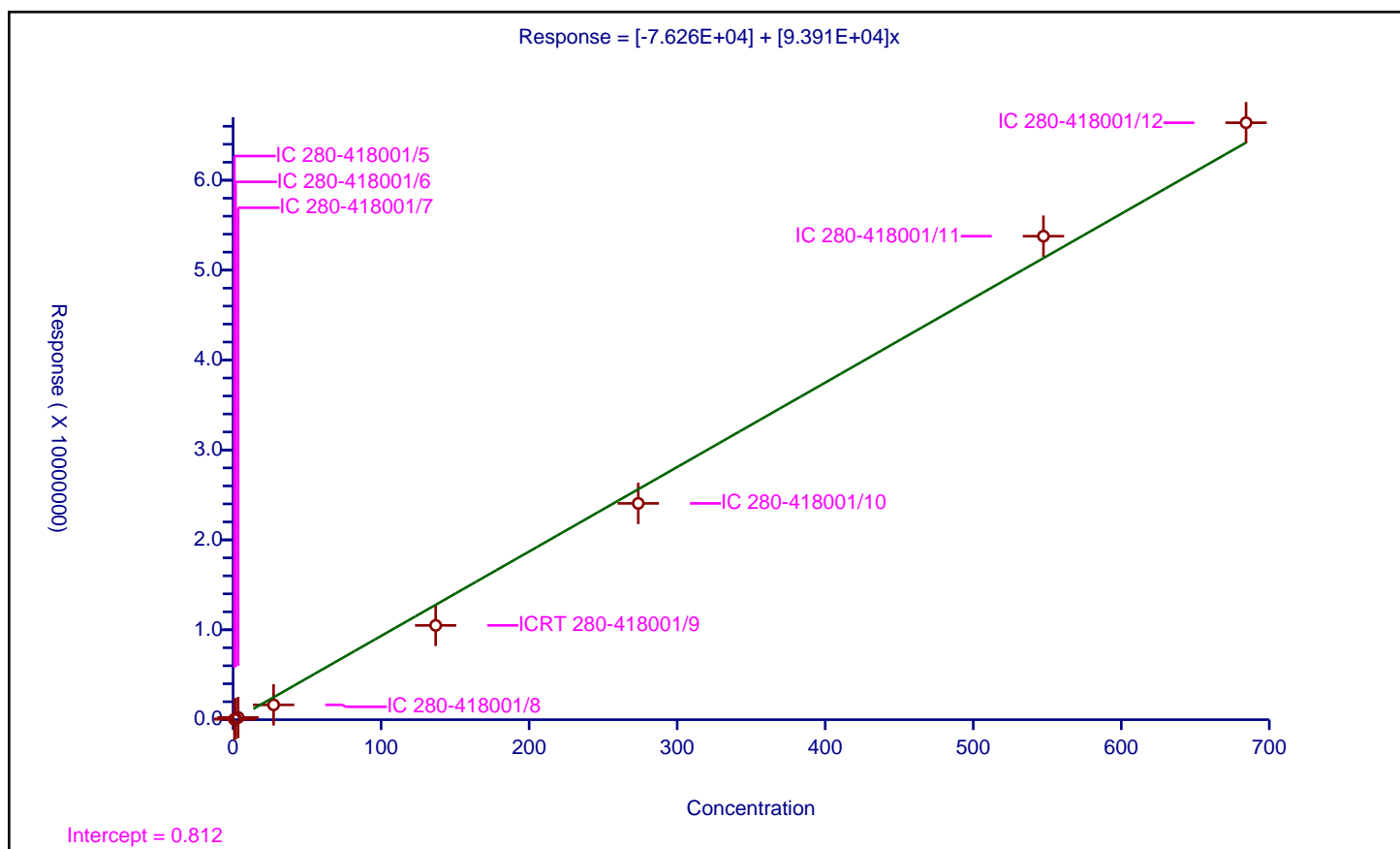
### Curve Coefficients

Intercept: -7.626E+04  
 Slope: 9.391E+04

### Error Coefficients

Standard Error: 1790000  
 Relative Standard Error: 21.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	0.923775	41384.0			44798.787584	Y
2	IC 280-418001/6	1.710694	104129.0			60869.432493	Y
3	IC 280-418001/7	3.421389	246946.0			72177.121052	Y
4	IC 280-418001/8	27.371111	1652633.0			60378.732646	Y
5	ICRT 280-418001/9	136.855556	10487883.0			76634.689454	Y
6	IC 280-418001/10	273.711111	24057655.0			87894.331006	Y
7	IC 280-418001/11	547.422222	53775812.0			98234.616384	Y
8	IC 280-418001/12	684.277778	66395950.0			97030.69741	Y





# Calibration

/ Propane

Curve Type: Linear  
Weighting: Conc  
Origin: None  
Dependency: Response  
Calib Mode: ESTD  
Response Base:  
RF Rounding: 0

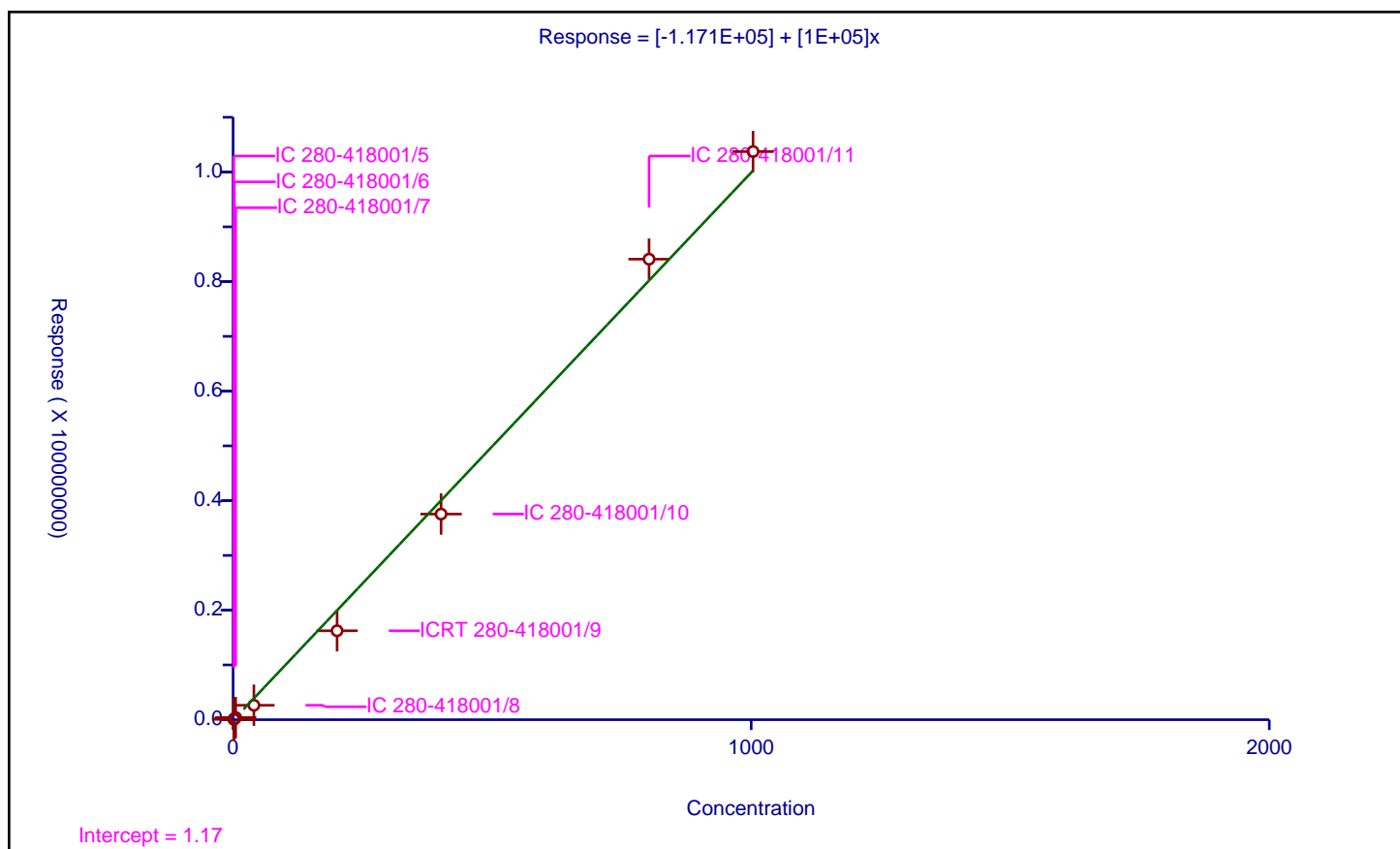
## Curve Coefficients

Intercept: -1.171E+05  
Slope: 1E+05

## Error Coefficients

Standard Error: 2860000  
Relative Standard Error: 21.5  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.3548	65587.0			48410.835548	Y
2	IC 280-418001/6	2.508889	164608.0			65609.920283	Y
3	IC 280-418001/7	5.017778	388926.0			77509.610274	Y
4	IC 280-418001/8	40.142222	2634066.0			65618.340345	Y
5	ICRT 280-418001/9	200.711111	16242964.0			80927.079274	Y
6	IC 280-418001/10	401.422222	37549613.0			93541.440711	Y
7	IC 280-418001/11	802.844444	84096078.0			104747.661371	Y
8	IC 280-418001/12	1003.555556	103738850.0			103371.307573	Y





# Calibration

/ isobutylene

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

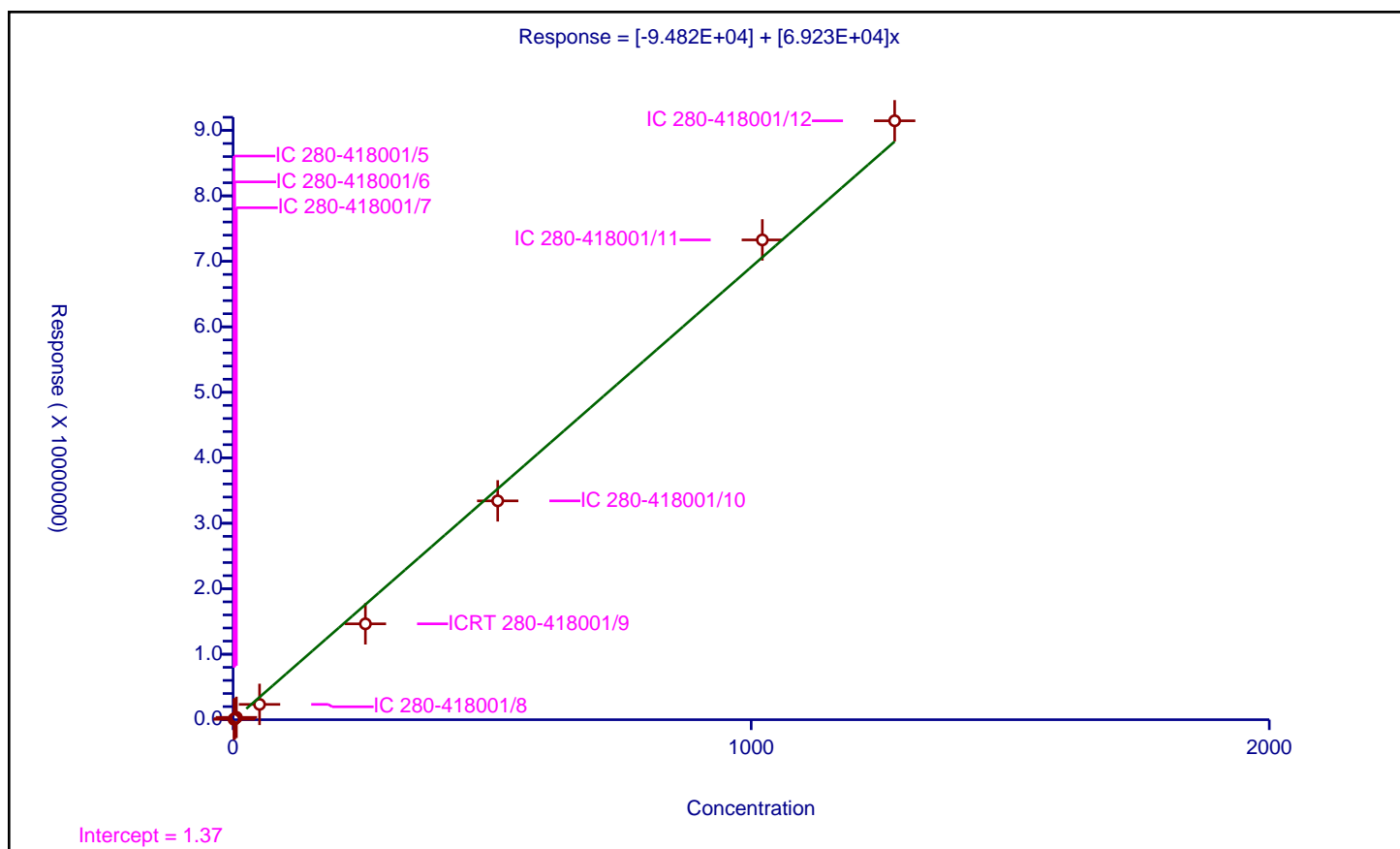
## Curve Coefficients

Intercept: -9.482E+04  
 Slope: 6.923E+04

## Error Coefficients

Standard Error: 2250000  
 Relative Standard Error: 20.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.7238	61977.0			35953.706927	Y
2	IC 280-418001/6	3.192222	153475.0			48077.793248	Y
3	IC 280-418001/7	6.384444	355630.0			55702.575705	Y
4	IC 280-418001/8	51.075556	2340345.0			45821.234337	Y
5	ICRT 280-418001/9	255.377778	14640735.0			57329.714149	Y
6	IC 280-418001/10	510.755556	33419253.0			65431.012226	Y
7	IC 280-418001/11	1021.511111	73272403.0			71729.423403	Y
8	IC 280-418001/12	1276.888889	91466230.0			71632.097981	Y





## Calibration

/ Butane

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ESTD  
 Response Base:  
 RF Rounding: 0

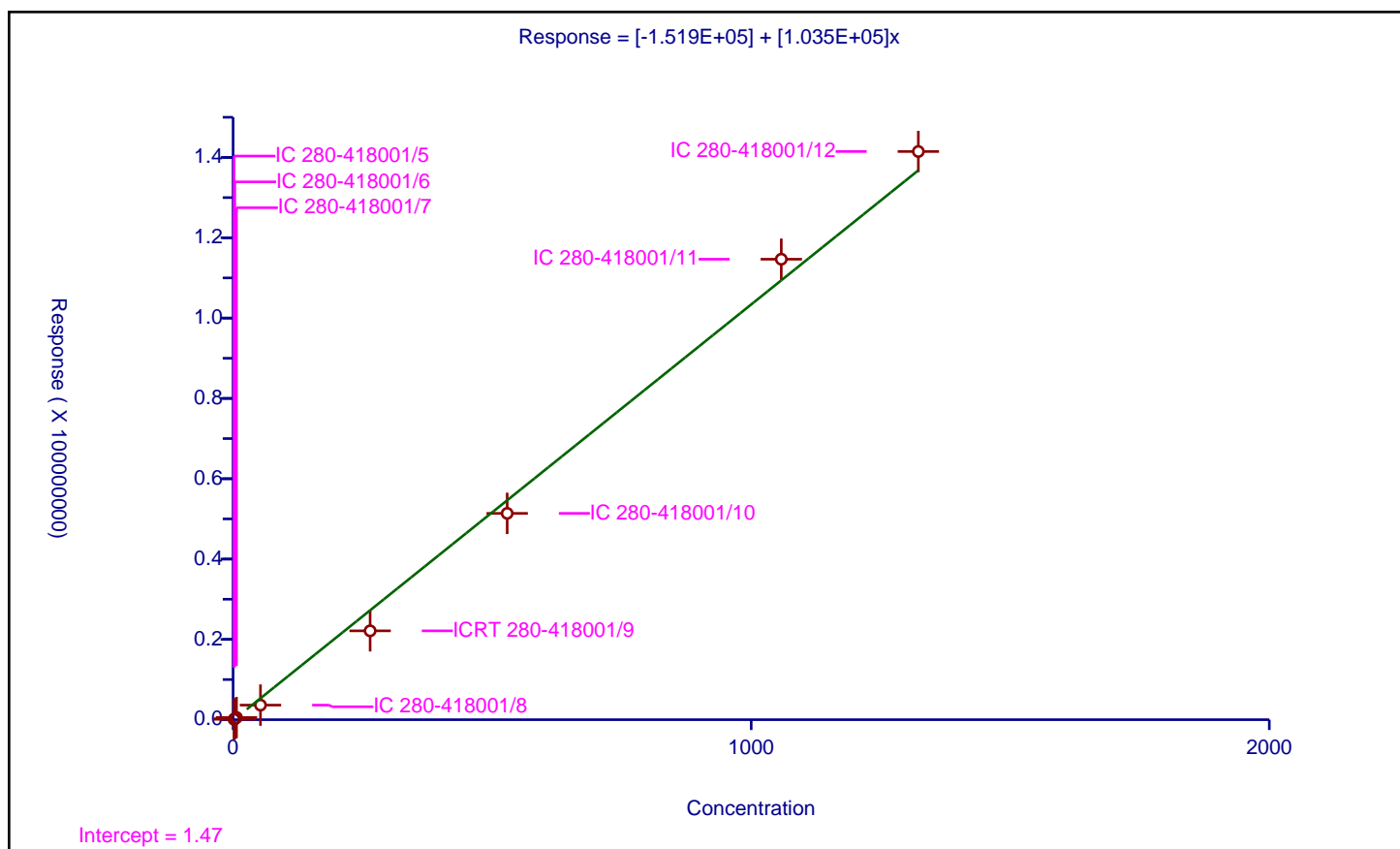
### Curve Coefficients

Intercept: -1.519E+05  
 Slope: 1.035E+05

### Error Coefficients

Standard Error: 3850000  
 Relative Standard Error: 21.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-418001/5	1.785525	96715.0			54166.141611	Y
2	IC 280-418001/6	3.306528	231210.0			69925.316083	Y
3	IC 280-418001/7	6.613056	538902.0			81490.620405	Y
4	IC 280-418001/8	52.904444	3635858.0			68725.00105	Y
5	ICRT 280-418001/9	264.522222	22125012.0			83641.41135	Y
6	IC 280-418001/10	529.044444	51374450.0			97108.003948	Y
7	IC 280-418001/11	1058.088889	114659503.0			108364.716995	Y
8	IC 280-418001/12	1322.611111	141475092.0			106966.508002	Y





FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06100013.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		122670		147	146	0.5	20.0
Ethane	Lin1		118054		295	274	7.8	20.0
Ethene	Lin1		96135		274	255	7.1	20.0
Propane	Lin1		124602		428	401	6.7	20.0
Acetylene	Lin1		33632		243	237	2.5	20.0
Butane	Lin1		128169		558	529	5.5	20.0
isobutylene	Lin1		86021		534	511	4.5	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06100013.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.25	1.21	1.29
Ethane	1.52	1.47	1.57
Ethene	1.83	1.79	1.89
Propane	2.58	2.53	2.65
Acetylene	4.06	3.99	4.15
Butane	4.35	4.28	4.44
isobutylene	5.28	5.21	5.37



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06100013.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		104926		146	146	0.0	20.0
Ethene	Lin1		81837		271	255	6.3	20.0
Acetylene	Lin1		29185		243	237	2.6	20.0
Ethane	Lin1		100603		294	274	7.4	20.0
Propane	Lin1		106586		429	401	6.9	20.0
isobutylene	Lin1		72255		534	511	4.6	20.0
Butane	Lin1		108885		558	529	5.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-418001/13 Calibration Date: 06/10/2018 22:02  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06100013.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.66	1.63	1.71
Ethene	2.46	2.42	2.52
Acetylene	2.60	2.52	2.68
Ethane	2.84	2.79	2.89
Propane	4.66	4.61	4.73
isobutylene	5.97	5.90	6.06
Butane	6.12	6.05	6.21



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-419946/3 Calibration Date: 06/25/2018 15:39  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06240003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		119228		71.4	73.0	-2.2	20.0
Ethane	Lin1		117811		148	137	7.9	20.0
Ethene	Lin1		95245		136	128	6.4	20.0
Propane	Lin1		127027		219	201	9.1	20.0
Acetylene	Lin1		33320		121	119	1.8	20.0
Butane	Lin1		134729		294	265	11.1	20.0
isobutylene	Lin1		89630		279	255	9.1	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-419946/3 Calibration Date: 06/25/2018 15:39  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.53	1.48	1.58
Ethene	1.86	1.81	1.91
Propane	2.61	2.55	2.67
Acetylene	4.08	4.00	4.16
Butane	4.38	4.30	4.46
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-419946/3 Calibration Date: 06/25/2018 15:39  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		102157		71.2	73.0	-2.4	20.0
Ethene	Lin1		81154		135	128	5.7	20.0
Acetylene	Lin1		28952		121	119	2.1	20.0
Ethane	Lin1		100574		147	137	7.7	20.0
Propane	Lin1		108613		219	201	9.2	20.0
isobutylene	Lin1		75363		279	255	9.4	20.0
Butane	Lin1		114449		294	265	11.1	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-419946/3 Calibration Date: 06/25/2018 15:39  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.67	1.63	1.71
Ethene	2.48	2.43	2.53
Acetylene	2.62	2.54	2.70
Ethane	2.86	2.81	2.91
Propane	4.67	4.61	4.73
isobutylene	5.98	5.90	6.06
Butane	6.14	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-419946/18 Calibration Date: 06/25/2018 19:28  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06240018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		109466		65.6	73.0	-10.2	20.0
Ethane	Lin1		108571		136	137	-0.5	20.0
Ethene	Lin1		88527		126	128	-1.0	20.0
Propane	Lin1		117099		202	201	0.6	20.0
Acetylene	Lin1		31793		115	119	-2.8	20.0
Butane	Lin1		123994		271	265	2.3	20.0
isobutylene	Lin1		83597		260	255	1.8	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419946/18 Calibration Date: 06/25/2018 19:28  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240018.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.25	1.22	1.30
Ethane	1.54	1.48	1.58
Ethene	1.85	1.81	1.91
Propane	2.61	2.55	2.67
Acetylene	4.08	4.00	4.16
Butane	4.38	4.30	4.46
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-419946/18 Calibration Date: 06/25/2018 19:28  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06240018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		93711		65.4	73.0	-10.5	20.0
Ethene	Lin1		75340		125	128	-1.8	20.0
Acetylene	Lin1		27595		115	119	-2.7	20.0
Ethane	Lin1		92339		135	137	-1.1	20.0
Propane	Lin1		100124		202	201	0.7	20.0
isobutylene	Lin1		70228		260	255	2.0	20.0
Butane	Lin1		105438		271	265	2.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419946/18 Calibration Date: 06/25/2018 19:28  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240018.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.67	1.63	1.71
Ethene	2.47	2.43	2.53
Acetylene	2.61	2.54	2.70
Ethane	2.85	2.81	2.91
Propane	4.67	4.61	4.73
isobutylene	5.98	5.90	6.06
Butane	6.13	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-419946/32 Calibration Date: 06/25/2018 22:42  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06240032.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		117239		70.2	73.0	-3.8	20.0
Ethane	Lin1		116899		146	137	7.0	20.0
Ethene	Lin1		96197		137	128	7.5	20.0
Propane	Lin1		125316		216	201	7.6	20.0
Acetylene	Lin1		32499		118	119	-0.7	20.0
Butane	Lin1		131253		286	265	8.3	20.0
isobutylene	Lin1		91894		286	255	11.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419946/32 Calibration Date: 06/25/2018 22:42  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240032.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.54	1.48	1.58
Ethene	1.85	1.81	1.91
Propane	2.61	2.55	2.67
Acetylene	4.09	4.00	4.16
Butane	4.38	4.30	4.46
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419946/32 Calibration Date: 06/25/2018 22:42  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240032.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		100461		70.1	73.0	-4.0	20.0
Ethene	Lin1		82009		136	128	6.8	20.0
Acetylene	Lin1		28390		119	119	0.0	20.0
Ethane	Lin1		99831		146	137	6.9	20.0
Propane	Lin1		107190		216	201	7.7	20.0
isobutylene	Lin1		77303		287	255	12.2	20.0
Butane	Lin1		111778		287	265	8.5	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-419946/32 Calibration Date: 06/25/2018 22:42  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06240032.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.67	1.63	1.71
Ethene	2.48	2.43	2.53
Acetylene	2.62	2.54	2.70
Ethane	2.86	2.81	2.91
Propane	4.67	4.61	4.73
isobutylene	5.98	5.90	6.06
Butane	6.14	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-420106/3 Calibration Date: 06/26/2018 13:21  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		103612		62.1	73.0	-15.0	20.0
Ethane	Lin1		102636		129	137	-5.9	20.0
Ethene	Lin1		86045		123	128	-3.8	20.0
Propane	Lin1		108374		187	201	-6.9	20.0
Acetylene	Lin1		33226		120	119	1.5	20.0
Butane	Lin1		113408		248	265	-6.4	20.0
isobutylene	Lin1		80734		251	255	-1.6	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-420106/3 Calibration Date: 06/26/2018 13:21  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.54	1.49	1.59
Ethene	1.85	1.80	1.90
Propane	2.62	2.56	2.68
Acetylene	4.09	4.01	4.17
Butane	4.39	4.31	4.47
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-420106/3 Calibration Date: 06/26/2018 13:21  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06260003.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		89113		62.2	73.0	-14.8	20.0
Ethene	Lin1		73531		122	128	-4.2	20.0
Acetylene	Lin1		28996		121	119	2.2	20.0
Ethane	Lin1		87831		129	137	-5.9	20.0
Propane	Lin1		93028		188	201	-6.4	20.0
isobutylene	Lin1		68079		253	255	-1.1	20.0
Butane	Lin1		96802		249	265	-6.0	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-420106/3 Calibration Date: 06/26/2018 13:21  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260003.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.68	1.64	1.72
Ethene	2.48	2.43	2.53
Acetylene	2.62	2.54	2.70
Ethane	2.86	2.81	2.91
Propane	4.67	4.61	4.73
isobutylene	5.99	5.91	6.07
Butane	6.14	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/18 Calibration Date: 06/26/2018 16:53  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		118869		71.2	73.0	-2.5	20.0
Ethane	Lin1		116386		146	137	6.6	20.0
Ethene	Lin1		96661		138	128	8.0	20.0
Propane	Lin1		123410		213	201	6.0	20.0
Acetylene	Lin1		36230		131	119	10.7	20.0
Butane	Lin1		129384		282	265	6.7	20.0
isobutylene	Lin1		89773		279	255	9.3	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/18 Calibration Date: 06/26/2018 16:53  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260018.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.25	1.22	1.30
Ethane	1.53	1.49	1.59
Ethene	1.84	1.80	1.90
Propane	2.60	2.56	2.68
Acetylene	4.08	4.01	4.17
Butane	4.38	4.31	4.47
isobutylene	5.30	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/18 Calibration Date: 06/26/2018 16:53  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		102021		71.1	73.0	-2.6	20.0
Ethene	Lin1		82512		137	128	7.5	20.0
Acetylene	Lin1		31562		132	119	11.2	20.0
Ethane	Lin1		99595		146	137	6.6	20.0
Propane	Lin1		105767		213	201	6.3	20.0
isobutylene	Lin1		75636		280	255	9.8	20.0
Butane	Lin1		110280		283	265	7.1	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/18 Calibration Date: 06/26/2018 16:53  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260018.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.66	1.64	1.72
Ethene	2.46	2.43	2.53
Acetylene	2.60	2.54	2.70
Ethane	2.84	2.81	2.91
Propane	4.67	4.61	4.73
isobutylene	5.98	5.91	6.07
Butane	6.13	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420106/33 Calibration Date: 06/26/2018 20:38  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06260033.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		127840		76.5	73.0	4.9	20.0
Ethane	Lin1		124553		156	137	14.0	20.0
Ethene	Lin1		101078		144	128	12.9	20.0
Propane	Lin1		131905		227	201	13.2	20.0
Acetylene	Lin1		35785		130	119	9.3	20.0
Butane	Lin1		137008		299	265	13.0	20.0
isobutylene	Lin1		92218		287	255	12.3	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/33 Calibration Date: 06/26/2018 20:38  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260033.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.25	1.22	1.30
Ethane	1.52	1.49	1.59
Ethene	1.85	1.80	1.90
Propane	2.60	2.56	2.68
Acetylene	4.08	4.01	4.17
Butane	4.38	4.31	4.47
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420106/33 Calibration Date: 06/26/2018 20:38  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06260033.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		109891		76.6	73.0	4.9	20.0
Ethene	Lin1		86328		144	128	12.4	20.0
Acetylene	Lin1		31219		130	119	10.0	20.0
Ethane	Lin1		106505		156	137	14.0	20.0
Propane	Lin1		113075		228	201	13.6	20.0
isobutylene	Lin1		77723		288	255	12.8	20.0
Butane	Lin1		116684		300	265	13.2	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/33 Calibration Date: 06/26/2018 20:38  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260033.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.67	1.64	1.72
Ethene	2.47	2.43	2.53
Acetylene	2.60	2.54	2.70
Ethane	2.84	2.81	2.91
Propane	4.67	4.61	4.73
isobutylene	5.98	5.91	6.07
Butane	6.13	6.06	6.22



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/41 Calibration Date: 06/26/2018 23:19  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260041.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		126614		75.8	73.0	3.8	20.0
Ethane	Lin1		107688		135	137	-1.3	20.0
Ethene	Lin1		101367		145	128	13.2	20.0
Propane	Lin1		131564		227	201	13.0	20.0
Acetylene	Lin1		36431		132	119	11.3	20.0
Butane	Lin1		138177		301	265	13.9	20.0
isobutylene	Lin1		93973		292	255	14.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/41 Calibration Date: 06/26/2018 23:19  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260041.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.26	1.22	1.30
Ethane	1.52	1.49	1.59
Ethene	1.85	1.80	1.90
Propane	2.61	2.56	2.68
Acetylene	4.09	4.01	4.17
Butane	4.39	4.31	4.47
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420106/41 Calibration Date: 06/26/2018 23:19  
 Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
 Lab File ID: 06260041.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		108834		75.9	73.0	3.9	20.0
Ethene	Lin1		86571		144	128	12.7	20.0
Acetylene	Lin1		31810		133	119	12.1	20.0
Ethane	Lin1		105735		155	137	13.2	20.0
Propane	Lin1		112800		228	201	13.4	20.0
isobutylene	Lin1		79198		294	255	14.9	20.0
Butane	Lin1		117780		302	265	14.3	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420106/41 Calibration Date: 06/26/2018 23:19  
Instrument ID: VGC\_J Calib Start Date: 06/10/2018 20:09  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 06/10/2018 21:48  
Lab File ID: 06260041.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.67	1.64	1.72
Ethene	2.48	2.43	2.53
Acetylene	2.61	2.54	2.70
Ethane	2.85	2.81	2.91
Propane	4.67	4.61	4.73
isobutylene	5.98	5.91	6.07
Butane	6.13	6.06	6.22



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-419946/4  
Matrix: Water Lab File ID: 06240004.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 15:52  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420106/4  
Matrix: Water Lab File ID: 06260004.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 13:35  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.584	J	5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-419946/5  
Matrix: Water Lab File ID: 06240005.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 16:06  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	128		5.0	0.22
74-85-1	Ethene	244		5.0	0.40
74-84-0	Ethane	266		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420106/5  
Matrix: Water Lab File ID: 06260005.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 13:49  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	143		5.0	0.22
74-85-1	Ethene	265		5.0	0.40
74-84-0	Ethane	295		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-419946/6  
Matrix: Water Lab File ID: 06240006.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 16:20  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	135		5.0	0.22
74-85-1	Ethene	254		5.0	0.40
74-84-0	Ethane	280		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-420106/6  
Matrix: Water Lab File ID: 06260006.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 14:03  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	148		5.0	0.22
74-85-1	Ethene	271		5.0	0.40
74-84-0	Ethane	302		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-121 MS Lab Sample ID: 280-110943-3 MS  
Matrix: Water Lab File ID: 06240021.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:05  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 20:10  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	584		5.0	0.22
74-85-1	Ethene	279		5.0	0.40
74-84-0	Ethane	309		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111004-J-6 MS  
Matrix: Water Lab File ID: 06260021.D  
Analysis Method: RSK-175 Date Collected: 06/14/2018 13:30  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 17:49  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	16400		5.0	0.22
74-85-1	Ethene	235		5.0	0.40
74-84-0	Ethane	260		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-121 MSD Lab Sample ID: 280-110943-3 MSD  
Matrix: Water Lab File ID: 06240022.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:05  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 20:24  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	562		5.0	0.22
74-85-1	Ethene	268		5.0	0.40
74-84-0	Ethane	296		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111004-J-6 MSD  
Matrix: Water Lab File ID: 06260022.D  
Analysis Method: RSK-175 Date Collected: 06/14/2018 13:30  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 18:03  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	14800		5.0	0.22
74-85-1	Ethene	168		5.0	0.40
74-84-0	Ethane	259		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-121 DU Lab Sample ID: 280-110943-3 DU  
Matrix: Water Lab File ID: 06240020.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 10:05  
Sample wt/vol: 18 (mL) Date Analyzed: 06/25/2018 19:56  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 419946 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	385		5.0	0.22
74-85-1	Ethene	30.5		5.0	0.40
74-84-0	Ethane	29.7		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-117 DU Lab Sample ID: 280-110943-14 DU  
Matrix: Water Lab File ID: 06260008.D  
Analysis Method: RSK-175 Date Collected: 06/13/2018 11:40  
Sample wt/vol: 18 (mL) Date Analyzed: 06/26/2018 14:32  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 420106 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	83.2		5.0	0.22
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Start Date: 06/10/2018 20:09Analysis Batch Number: 418001 End Date: 06/10/2018 22:02

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-418001/5		06/10/2018 20:09	1	06100005.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/5		06/10/2018 20:09	1	06100005.D	HP-Plot Q 0.53 (mm)
IC 280-418001/6		06/10/2018 20:23	1	06100006.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/6		06/10/2018 20:23	1	06100006.D	HP-Plot Q 0.53 (mm)
IC 280-418001/7		06/10/2018 20:38	1	06100007.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/7		06/10/2018 20:38	1	06100007.D	HP-Plot Q 0.53 (mm)
IC 280-418001/8		06/10/2018 20:52	1	06100008.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/8		06/10/2018 20:52	1	06100008.D	HP-Plot Q 0.53 (mm)
ICRT 280-418001/9		06/10/2018 21:06	1	06100009.D	Rt-Alumina KCl 0.53 (mm)
ICRT 280-418001/9		06/10/2018 21:06	1	06100009.D	HP-Plot Q 0.53 (mm)
IC 280-418001/10		06/10/2018 21:20	1	06100010.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/10		06/10/2018 21:20	1	06100010.D	HP-Plot Q 0.53 (mm)
IC 280-418001/11		06/10/2018 21:34	1	06100011.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/11		06/10/2018 21:34	1	06100011.D	HP-Plot Q 0.53 (mm)
IC 280-418001/12		06/10/2018 21:48	1	06100012.D	Rt-Alumina KCl 0.53 (mm)
IC 280-418001/12		06/10/2018 21:48	1	06100012.D	HP-Plot Q 0.53 (mm)
ICV 280-418001/13		06/10/2018 22:02	1	06100013.D	Rt-Alumina KCl 0.53 (mm)
ICV 280-418001/13		06/10/2018 22:02	1	06100013.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 06/25/2018 15:39Analysis Batch Number: 419946End Date: 06/25/2018 22:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-419946/3		06/25/2018 15:39	1	06240003.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-419946/3		06/25/2018 15:39	1	06240003.D	HP-Plot Q 0.53 (mm)
MB 280-419946/4		06/25/2018 15:52	1	06240004.D	Rt-Alumina KCl 0.53 (mm)
MB 280-419946/4		06/25/2018 15:52	1	06240004.D	HP-Plot Q 0.53 (mm)
LCS 280-419946/5		06/25/2018 16:06	1	06240005.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-419946/5		06/25/2018 16:06	1	06240005.D	HP-Plot Q 0.53 (mm)
LCSD 280-419946/6		06/25/2018 16:20	1	06240006.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-419946/6		06/25/2018 16:20	1	06240006.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 16:55	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 16:55	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 17:09	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 17:09	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 17:23	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 17:23	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 17:37	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 17:37	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 17:50	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 17:50	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 18:04	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 18:04	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 18:18	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 18:18	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 18:32	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 18:32	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 18:46	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 18:46	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 19:00	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 19:00	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 19:14	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 19:14	1		HP-Plot Q 0.53 (mm)
CCV 280-419946/18		06/25/2018 19:28	1	06240018.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-419946/18		06/25/2018 19:28	1	06240018.D	HP-Plot Q 0.53 (mm)
280-110943-3		06/25/2018 19:42	1	06240019.D	Rt-Alumina KCl 0.53 (mm)
280-110943-3		06/25/2018 19:42	1	06240019.D	HP-Plot Q 0.53 (mm)
280-110943-3 DU		06/25/2018 19:56	1	06240020.D	Rt-Alumina KCl 0.53 (mm)
280-110943-3 DU		06/25/2018 19:56	1	06240020.D	HP-Plot Q 0.53 (mm)
280-110943-3 MS		06/25/2018 20:10	1	06240021.D	Rt-Alumina KCl 0.53 (mm)
280-110943-3 MS		06/25/2018 20:10	1	06240021.D	HP-Plot Q 0.53 (mm)
280-110943-3 MSD		06/25/2018 20:24	1	06240022.D	Rt-Alumina KCl 0.53 (mm)
280-110943-3 MSD		06/25/2018 20:24	1	06240022.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 20:38	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 20:38	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 20:52	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 20:52	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 21:05	1		Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Start Date: 06/25/2018 15:39Analysis Batch Number: 419946 End Date: 06/25/2018 22:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/25/2018 21:05	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 21:19	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 21:19	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/25/2018 21:33	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/25/2018 21:33	1		HP-Plot Q 0.53 (mm)
280-110943-4		06/25/2018 21:47	1	06240028.D	Rt-Alumina KCl 0.53 (mm)
280-110943-4		06/25/2018 21:47	1	06240028.D	HP-Plot Q 0.53 (mm)
280-110943-5		06/25/2018 22:01	1	06240029.D	Rt-Alumina KCl 0.53 (mm)
280-110943-5		06/25/2018 22:01	1	06240029.D	HP-Plot Q 0.53 (mm)
280-110943-12		06/25/2018 22:15	1	06240030.D	Rt-Alumina KCl 0.53 (mm)
280-110943-12		06/25/2018 22:15	1	06240030.D	HP-Plot Q 0.53 (mm)
280-110943-13		06/25/2018 22:29	1	06240031.D	Rt-Alumina KCl 0.53 (mm)
280-110943-13		06/25/2018 22:29	1	06240031.D	HP-Plot Q 0.53 (mm)
CCV 280-419946/32		06/25/2018 22:42	1	06240032.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-419946/32		06/25/2018 22:42	1	06240032.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 06/26/2018 13:21Analysis Batch Number: 420106End Date: 06/26/2018 23:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-420106/3		06/26/2018 13:21	1	06260003.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-420106/3		06/26/2018 13:21	1	06260003.D	HP-Plot Q 0.53 (mm)
MB 280-420106/4		06/26/2018 13:35	1	06260004.D	Rt-Alumina KCl 0.53 (mm)
MB 280-420106/4		06/26/2018 13:35	1	06260004.D	HP-Plot Q 0.53 (mm)
LCS 280-420106/5		06/26/2018 13:49	1	06260005.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-420106/5		06/26/2018 13:49	1	06260005.D	HP-Plot Q 0.53 (mm)
LCSD 280-420106/6		06/26/2018 14:03	1	06260006.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-420106/6		06/26/2018 14:03	1	06260006.D	HP-Plot Q 0.53 (mm)
280-110943-14		06/26/2018 14:17	1	06260007.D	Rt-Alumina KCl 0.53 (mm)
280-110943-14		06/26/2018 14:17	1	06260007.D	HP-Plot Q 0.53 (mm)
280-110943-14 DU		06/26/2018 14:32	1	06260008.D	Rt-Alumina KCl 0.53 (mm)
280-110943-14 DU		06/26/2018 14:32	1	06260008.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 14:46	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 14:46	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 15:00	4		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 15:00	4		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 15:14	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 15:14	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 15:28	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 15:28	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 15:42	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 15:42	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 15:57	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 15:57	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 16:11	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 16:11	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 16:25	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 16:25	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 16:39	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 16:39	1		HP-Plot Q 0.53 (mm)
CCV 280-420106/18		06/26/2018 16:53	1	06260018.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-420106/18		06/26/2018 16:53	1	06260018.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 17:21	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 17:21	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 17:35	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 17:35	1		HP-Plot Q 0.53 (mm)
280-111004-J-6 MS		06/26/2018 17:49	1	06260021.D	Rt-Alumina KCl 0.53 (mm)
280-111004-J-6 MS		06/26/2018 17:49	1	06260021.D	HP-Plot Q 0.53 (mm)
280-111004-J-6 MSD		06/26/2018 18:03	1	06260022.D	Rt-Alumina KCl 0.53 (mm)
280-111004-J-6 MSD		06/26/2018 18:03	1	06260022.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 18:17	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 18:17	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 18:31	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 18:31	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 18:45	1		Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 06/26/2018 13:21Analysis Batch Number: 420106End Date: 06/26/2018 23:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		06/26/2018 18:45	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 18:59	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 18:59	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 19:13	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 19:13	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 19:28	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 19:28	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 19:42	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 19:42	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 19:56	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 19:56	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 20:10	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 20:10	1		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 20:24	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 20:24	1		HP-Plot Q 0.53 (mm)
CCV 280-420106/33		06/26/2018 20:38	1	06260033.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-420106/33		06/26/2018 20:38	1	06260033.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 21:42	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 21:42	3		HP-Plot Q 0.53 (mm)
280-110943-4		06/26/2018 21:56	18	06260035.D	Rt-Alumina KCl 0.53 (mm)
280-110943-4		06/26/2018 21:56	18	06260035.D	HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 22:10	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 22:10	3		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 22:24	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 22:24	3		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 22:37	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 22:37	3		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 22:51	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 22:51	3		HP-Plot Q 0.53 (mm)
ZZZZZ		06/26/2018 23:05	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		06/26/2018 23:05	3		HP-Plot Q 0.53 (mm)
CCV 280-420106/41		06/26/2018 23:19	1	06260041.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-420106/41		06/26/2018 23:19	1	06260041.D	HP-Plot Q 0.53 (mm)



# GENERAL CHEMISTRY



COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110943-1

SDG No.: \_\_\_\_\_

Project: THAN Davenport, IA - June 2018

Client Sample ID	Lab Sample ID
AFDV-104	280-110943-1
AFDV-111	280-110943-2
AFDV-121	280-110943-3
AFDV-130	280-110943-4
AFDV-144	280-110943-5
AFDV-114	280-110943-6
AFDV-140	280-110943-7
AFDV-115	280-110943-8
AFDV-138	280-110943-9
AFDV-107	280-110943-10
AFDV-143	280-110943-11
AFDV-109	280-110943-12
AFDV-101	280-110943-13
AFDV-117	280-110943-14
AFDV-113	280-110943-15
AFDV-139	280-110943-16
AFDV-141	280-110943-17
AFDV-142	280-110943-18

Comments:



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-104	Lab Sample ID: 280-110943-1
Lab Name: TestAmerica Denver	Job No.: 280-110943-1
SDG ID.:	
Matrix: Water	Date Sampled: 06/13/2018 11:30
Reporting Basis: WET	Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	22	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	3.6	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-111

Lab Sample ID: 280-110943-2

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 11:20

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	130	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	6.1	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-121

Lab Sample ID: 280-110943-3

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 10:05

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	150	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	110	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	2.3	1.0	0.16	mg/L		B	1	9060
	Alkalinity	350	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-130

Lab Sample ID: 280-110943-4

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 10:00

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	110	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	9.2	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	6.8	1.0	0.16	mg/L		B	1	9060
	Alkalinity	570	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	0.54	1.0	0.11	mg/L	J	HF	5	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-144

Lab Sample ID: 280-110943-5

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 12:00

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	ND	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	ND	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	0.29	1.0	0.16	mg/L	J	B	1	9060
	Alkalinity	3.9	5.0	1.1	mg/L	J	B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-114

Lab Sample ID: 280-110943-6

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 14:50

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	150	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	5.7	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-140  
Lab Name: TestAmerica Denver  
SDG ID.:  
Matrix: Water  
Reporting Basis: WET

Lab Sample ID: 280-110943-7  
Job No.: 280-110943-1  
Date Sampled: 06/13/2018 14:10  
Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	83	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	2.9	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-115

Lab Sample ID: 280-110943-8

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 14:55

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	150	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	5.6	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-138                      Lab Sample ID: 280-110943-9  
Lab Name: TestAmerica Denver                      Job No.: 280-110943-1  
SDG ID.:  
Matrix: Water                      Date Sampled: 06/13/2018 14:30  
Reporting Basis: WET                      Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	48	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	6.9	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-107

Lab Sample ID: 280-110943-10

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 16:09

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	9.3	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	6.6	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-143

Lab Sample ID: 280-110943-11

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 16:40

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	63	150	13	mg/L	J		50	300.0



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-109

Lab Sample ID: 280-110943-12

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 10:05

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	44	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	2.6	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	64	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	1.7	1.0	0.16	mg/L		B	1	9060
	Alkalinity	310	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-101

Lab Sample ID: 280-110943-13

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 10:15

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	42	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	5.7	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	41	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	2.2	1.0	0.16	mg/L		B	1	9060
	Alkalinity	240	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-117

Lab Sample ID: 280-110943-14

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 11:40

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	23	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	46	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	3.4	1.0	0.16	mg/L		B	1	9060
	Alkalinity	440	5.0	1.1	mg/L		B	1	SM 2320B
15438-31-0	Ferrous Iron	ND	0.20	0.021	mg/L		HF	1	SM3500_F E_D



Client Sample ID: AFDV-113	Lab Sample ID: 280-110943-15
Lab Name: TestAmerica Denver	Job No.: 280-110943-1
SDG ID.:	
Matrix: Water	Date Sampled: 06/13/2018 15:45
Reporting Basis: WET	Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	510	15	1.3	mg/L			5	300.0
7440-44-0	Total Organic Carbon - Average	8.5	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-139

Lab Sample ID: 280-110943-16

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 14:20

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	37	3.0	0.25	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	3.9	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-141

Lab Sample ID: 280-110943-17

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 15:40

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	420	15	1.3	mg/L			5	300.0
7440-44-0	Total Organic Carbon - Average	14	1.0	0.16	mg/L		B	1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-142

Lab Sample ID: 280-110943-18

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG ID.:

Matrix: Water

Date Sampled: 06/13/2018 15:45

Reporting Basis: WET

Date Received: 06/14/2018 09:00

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	420	15	1.3	mg/L			5	300.0
7440-44-0	Total Organic Carbon - Average	14	1.0	0.16	mg/L		B	1	9060



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Analyst: CCJ Batch Start Date: 06/14/2018  
Reporting Units: mg/L Analytical Batch No.: 418593

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	11:13	Nitrate as N	5.01	5.00	100	90-110		IC LCS_01256
2	CCB	11:34	Nitrate as N	ND					
17	CCV	22:07	Nitrate as N	5.03	5.00	101	90-110		IC LCS_01256
18	CCB	22:29	Nitrate as N	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Analyst: TLP Batch Start Date: 06/25/2018  
Reporting Units: mg/L Analytical Batch No.: 419995

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	21:49	Chloride	80.9	80.0	101	90-110		IC CL ICV_00014
			Sulfate	82.1	80.0	103	90-110		IC SO4 ICV_00017
9	ICB	22:11	Chloride	ND					
			Sulfate	0.264				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Analyst: AJA Batch Start Date: 07/05/2018  
 Reporting Units: mg/L Analytical Batch No.: 421176

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	12:43	Chloride	99.3	100	99	90-110	IC	LCS_01274
			Sulfate	102	100	102	90-110	IC	LCS_01274
2	CCB	13:01	Chloride	ND					
			Sulfate	ND					
17	CCV	18:14	Chloride	98.6	100	99	90-110	IC	LCS_01274
			Sulfate	101	100	101	90-110	IC	LCS_01274
18	CCB	18:32	Chloride	ND					
			Sulfate	ND					
29	CCV	21:48	Chloride	99.6	100	100	90-110	IC	LCS_01274
30	CCB	22:06	Chloride	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Analyst: TLP Batch Start Date: 07/09/2018  
 Reporting Units: mg/L Analytical Batch No.: 421505

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	15:47	Chloride	101	100	101	90-110		IC LCS_01277
			Sulfate	103	100	103	90-110		IC LCS_01277
2	CCB	16:09	Chloride	ND					
			Sulfate	ND					
17	CCV	00:42	Chloride	102	100	102	90-110		IC LCS_01277
			Sulfate	103	100	103	90-110		IC LCS_01277
18	CCB	01:04	Chloride	ND					
			Sulfate	ND					
29	CCV	05:09	Chloride	102	100	102	90-110		IC LCS_01277
			Sulfate	104	100	104	90-110		IC LCS_01277
30	CCB	05:31	Chloride	ND					
			Sulfate	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Analyst: CCJ Batch Start Date: 07/10/2018  
Reporting Units: mg/L Analytical Batch No.: 421617

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	10:26	Chloride	99.5	100	99	90-110		IC LCS_01278
2	CCB	10:48	Chloride	ND					
13	CCV	19:13	Chloride	99.7	100	100	90-110		IC LCS_01278
14	CCB	19:35	Chloride	ND					
37	CCV	04:06	Chloride	99.9	100	100	90-110		IC LCS_01278
38	CCB	04:28	Chloride	ND					
49	CCV	08:33	Chloride	100	100	100	90-110		IC LCS_01278
50	CCB	08:55	Chloride	ND					
66	CCV	16:29	Chloride	100	100	100	90-110		IC LCS_01278
67	CCB	16:51	Chloride	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Analyst: AlD Batch Start Date: 06/27/2018  
 Reporting Units: mg/L Analytical Batch No.: 420381

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	15:12	Total Organic Carbon - Average	20.9	20.0	105	90-110		TOC ICV Std_00033
2	ICB	15:26	Total Organic Carbon - Average	ND					
27	CCV	22:29	Total Organic Carbon - Average	23.1	25.0	92	90-110		TOC LCS Std_00041
28	CCB	22:44	Total Organic Carbon - Average	0.188				J	
39	CCV	01:32	Total Organic Carbon - Average	23.5	25.0	94	90-110		TOC LCS Std_00041
40	CCB	01:47	Total Organic Carbon - Average	0.218				J	
51	CCV	04:51	Total Organic Carbon - Average	23.4	25.0	94	90-110		TOC LCS Std_00041
52	CCB	05:08	Total Organic Carbon - Average	0.234				J	
63	CCV	08:21	Total Organic Carbon - Average	23.4	25.0	94	90-110		TOC LCS Std_00041
64	CCB	08:37	Total Organic Carbon - Average	0.194				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Analyst: LPL Batch Start Date: 06/23/2018  
Reporting Units: mg/L Analytical Batch No.: 419814

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
16	CCV	13:31	Alkalinity	201	200	100	90-110		Alk daily lcs 00750
17	CCB	13:35	Alkalinity	1.34				J	
28	CCV	14:57	Alkalinity	200	200	100	90-110		Alk daily lcs 00750
29	CCB	15:02	Alkalinity	1.39				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
SDG No.: \_\_\_\_\_  
Analyst: IEU Batch Start Date: 06/22/2018  
Reporting Units: mg/L Analytical Batch No.: 419575

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	08:29	Ferrous Iron	1.08	1.00	108	90-110		FE ICV INT_00499
2	ICB	08:29	Ferrous Iron	ND					
15	CCV	08:31	Ferrous Iron	1.08	1.00	108	90-110		FE Cal INT_00499
16	CCB	08:31	Ferrous Iron	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



3-IN  
METHOD BLANK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 418593 Date: 06/14/2018 13:03							
300.0	MB 280-418593/6	Nitrate as N	ND		mg/L	0.50	1
Batch ID: 421176 Date: 07/05/2018 14:12							
300.0	MB 280-421176/6	Chloride	ND		mg/L	3.0	1
300.0	MB 280-421176/6	Sulfate	ND		mg/L	5.0	1
Batch ID: 421505 Date: 07/09/2018 17:38							
300.0	MB 280-421505/6	Chloride	ND		mg/L	3.0	1
300.0	MB 280-421505/6	Sulfate	ND		mg/L	5.0	1
Batch ID: 421617 Date: 07/10/2018 18:51							
300.0	MB 280-421617/12	Chloride	ND		mg/L	3.0	1
Batch ID: 420381 Date: 06/28/2018 00:31							
9060	MB 280-420381/35	Total Organic Carbon - Average	0.208	J	mg/L	1.0	1
Batch ID: 419814 Date: 06/23/2018 12:24							
SM 2320B	MB 280-419814/5	Alkalinity	1.77	J	mg/L	5.0	1
Batch ID: 418908 Date: 06/18/2018 07:45							
SM 4500 S2 F	MB 280-418908/1	Sulfide	ND		mg/L	1.0	1
Batch ID: 419575 Date: 06/22/2018 08:29							
SM3500_FE_D	MB 280-419575/5	Ferrous Iron	ND		mg/L	0.20	1



5-IN  
MATRIX SPIKE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418593 Date: 06/14/2018 19:09											
300.0	280-110943-3	Nitrate as N	ND		mg/L						
300.0	280-110943-3 MS	Nitrate as N	5.00		mg/L	5.00	100	80-120			
Batch ID: 421176 Date: 07/05/2018 16:28											
300.0	280-110943-3	Chloride	150		mg/L						
300.0	280-110943-3 MS	Chloride	169		mg/L	25.0	93	80-120			4
300.0	280-110943-3	Sulfate	110		mg/L						
300.0	280-110943-3 MS	Sulfate	131		mg/L	25.0	96	80-120			4
Batch ID: 421176 Date: 07/05/2018 19:43											
300.0	280-110943-9	Chloride	48		mg/L						
300.0	280-110943-9 MS	Chloride	73.2		mg/L	25.0	99	80-120			
Batch ID: 421505 Date: 07/09/2018 21:44											
300.0	280-111725-G-3	Chloride	14		mg/L						
300.0	280-111725-G-3 MS	Chloride	40.4		mg/L	25.0	106	80-120			
300.0	280-111725-G-3	Sulfate	15		mg/L						
300.0	280-111725-G-3 MS	Sulfate	42.4		mg/L	25.0	108	80-120			
Batch ID: 421505 Date: 07/10/2018 01:49											
300.0	280-110851-A-31	Chloride	12	J	mg/L						
300.0	280-110851-A-31 MS	Chloride	144		mg/L	125	105	80-120			
Batch ID: 421617 Date: 07/11/2018 05:57											
300.0	280-111006-B-6	Chloride	5.2	J	mg/L						
300.0	280-111006-B-6 MS	Chloride	141		mg/L	125	109	80-120			
Batch ID: 420381 Date: 06/28/2018 02:18											
9060	280-110943-9	Total Organic Carbon - Average	6.9		mg/L						B
9060	280-110943-9 MS	Total Organic Carbon - Average	30.8		mg/L	25.0	96	88-112			
Batch ID: 420381 Date: 06/28/2018 06:17											
9060	280-110943-3	Total Organic Carbon - Average	2.3		mg/L						B
9060	280-110943-3 MS	Total Organic Carbon - Average	26.1		mg/L	25.0	95	88-112			
Batch ID: 418908 Date: 06/18/2018 07:45											
SM 4500 S2 F	280-110943-3	Sulfide	ND		mg/L						
SM 4500 S2 F MS	280-110943-3	Sulfide	28.0		mg/L	26.9	104	90-110			
Batch ID: 419575 Date: 06/22/2018 08:29											
SM3500_FE_D	280-110943-3	Ferrous Iron	ND		mg/L						HF

Calculations are performed before rounding to avoid round-off errors in calculated results.



5-IN  
MATRIX SPIKE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
SM3500_	280-110943-3	Ferrous Iron	2.21		mg/L	2.00	111	85-113			HF
FE D	MS										

Calculations are performed before rounding to avoid round-off errors in calculated results.



5-IN  
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418593 Date: 06/14/2018 19:31											
300.0	280-110943-3	Nitrate as N	4.90		mg/L	5.00	98	80-120	2	20	
	MSD										
Batch ID: 421176 Date: 07/05/2018 16:45											
300.0	280-110943-3	Chloride	170		mg/L	25.0	95	80-120	0	20	4
	MSD										
300.0	280-110943-3	Sulfate	132		mg/L	25.0	97	80-120	0	20	4
	MSD										
Batch ID: 421176 Date: 07/05/2018 20:01											
300.0	280-110943-9	Chloride	74.7		mg/L	25.0	105	80-120	2	20	
	MSD										
Batch ID: 421505 Date: 07/09/2018 22:06											
300.0	280-111725-G-	Chloride	41.1		mg/L	25.0	109	80-120	2	20	
	3 MSD										
300.0	280-111725-G-	Sulfate	43.2		mg/L	25.0	111	80-120	2	20	
	3 MSD										
Batch ID: 421505 Date: 07/10/2018 02:11											
300.0	280-110851-A-	Chloride	144		mg/L	125	105	80-120	0	20	
	31 MSD										
Batch ID: 421617 Date: 07/11/2018 06:19											
300.0	280-111006-B-	Chloride	141		mg/L	125	109	80-120	0	20	
	6 MSD										
Batch ID: 420381 Date: 06/28/2018 02:33											
9060	280-110943-9	Total Organic Carbon - Average	31.0		mg/L	25.0	97	88-112	1	15	
	MSD										
Batch ID: 420381 Date: 06/28/2018 06:36											
9060	280-110943-3	Total Organic Carbon - Average	26.7		mg/L	25.0	98	88-112	2	15	
	MSD										
Batch ID: 418908 Date: 06/18/2018 07:45											
SM 4500 S2 F	280-110943-3	Sulfide	28.0		mg/L	26.9	104	90-110	0	10	
	MSD										
Batch ID: 419575 Date: 06/22/2018 08:29											
SM3500_FED	280-110943-3	Ferrous Iron	2.21		mg/L	2.00	110	85-113	0	10	HF
	MSD										

Calculations are performed before rounding to avoid round-off errors in calculated results.



6-IN  
DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 418593 Date: 06/14/2018 17:48								
300.0	AFDV-121	280-110943-3	Nitrate as N	ND	mg/L			
300.0	AFDV-121	280-110943-3 DU	Nitrate as N	ND	mg/L	NC	15	
Batch ID: 421176 Date: 07/05/2018 16:10								
300.0	AFDV-121	280-110943-3	Chloride	150	mg/L			
300.0	AFDV-121	280-110943-3 DU	Chloride	146	mg/L	0.2	15	
300.0	AFDV-121	280-110943-3	Sulfate	110	mg/L			
300.0	AFDV-121	280-110943-3 DU	Sulfate	107	mg/L	0.1	15	
Batch ID: 421176 Date: 07/05/2018 19:26								
300.0	AFDV-138	280-110943-9	Chloride	48	mg/L			
300.0	AFDV-138	280-110943-9 DU	Chloride	48.2	mg/L	0.5	15	
Batch ID: 421505 Date: 07/09/2018 21:22								
300.0		280-111725-G-3	Chloride	14	mg/L			
300.0		280-111725-G-3 DU	Chloride	13.9	mg/L	0.2	15	
300.0		280-111725-G-3	Sulfate	15	mg/L			
300.0		280-111725-G-3 DU	Sulfate	15.4	mg/L	0.7	15	
Batch ID: 421505 Date: 07/10/2018 01:26								
300.0		280-110851-A-31	Chloride	12	mg/L			J
300.0		280-110851-A-31 DU	Chloride	12.0	mg/L	2	15	J
Batch ID: 421617 Date: 07/11/2018 05:35								
300.0		280-111006-B-6	Chloride	5.2	mg/L			J
300.0		280-111006-B-6 DU	Chloride	5.16	mg/L	2	15	J
Batch ID: 419814 Date: 06/23/2018 12:37								
SM 2320B		280-110879-A-6	Alkalinity	380	mg/L			
SM 2320B		280-110879-A-6 DU	Alkalinity	385	mg/L	0.6	10	
Batch ID: 419575 Date: 06/22/2018 08:29								
SM3500_FE_ AFDV-121 D		280-110943-3	Ferrous Iron	ND	mg/L			
SM3500_FE_ AFDV-121 D		280-110943-3 DU	Ferrous Iron	ND	mg/L	NC	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
LAB CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418593 Date: 06/14/2018 12:19											
						LCS Source: IC LCS_01256					
300.0	LCS 280-418593/4	Nitrate as N	5.01		mg/L	5.00	100	90-110	0	10	
Batch ID: 421176 Date: 07/05/2018 13:36											
						LCS Source: IC LCS_01274					
300.0	LCS 280-421176/4	Chloride	98.3		mg/L	100	98	90-110	1	10	
300.0	LCS 280-421176/4	Sulfate	99.7		mg/L	100	100	90-110	1	10	
Batch ID: 421505 Date: 07/09/2018 16:54											
						LCS Source: IC LCS_01277					
300.0	LCS 280-421505/4	Chloride	101		mg/L	100	101	90-110	0	10	
300.0	LCS 280-421505/4	Sulfate	103		mg/L	100	103	90-110	0	10	
Batch ID: 421617 Date: 07/10/2018 17:43											
						LCS Source: IC LCS_01278					
300.0	LCS 280-421617/60	Chloride	99.7		mg/L	100	100	90-110	0	10	
Batch ID: 420381 Date: 06/28/2018 00:16											
						LCS Source: TOC LCS Std_00041					
9060	LCS 280-420381/34	Total Organic Carbon - Average	23.3		mg/L	25.0	93	88-112			
Batch ID: 419814 Date: 06/23/2018 12:19											
						LCS Source: Alk daily lcs_00750					
SM 2320B	LCS 280-419814/4	Alkalinity	201		mg/L	200	101	90-110			
Batch ID: 418908 Date: 06/18/2018 07:45											
						LCS Source: SFD CAL INT_01500					
SM 4500 S2 F	LCS 280-418908/2	Sulfide	27.8		mg/L	26.9	103	90-110			
Batch ID: 419575 Date: 06/22/2018 08:29											
						LCS Source: FE ICV INT_00499					
SM3500_ FE D	LCS 280-419575/3	Ferrous Iron	2.19		mg/L	2.00	110	85-113	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
LAB CONTROL SAMPLE DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418593 Date: 06/14/2018 12:41											
						LCSD Source: IC LCS_01256					
300.0	LCSD 280-418593/5	Nitrate as N	5.01		mg/L	5.00	100	90-110	0	10	
Batch ID: 421176 Date: 07/05/2018 13:54											
						LCSD Source: IC LCS_01274					
300.0	LCSD 280-421176/5	Chloride	98.9		mg/L	100	99	90-110	1	10	
300.0	LCSD 280-421176/5	Sulfate	100		mg/L	100	100	90-110	1	10	
Batch ID: 421505 Date: 07/09/2018 17:16											
						LCSD Source: IC LCS_01277					
300.0	LCSD 280-421505/5	Chloride	101		mg/L	100	101	90-110	0	10	
300.0	LCSD 280-421505/5	Sulfate	103		mg/L	100	103	90-110	0	10	
Batch ID: 421617 Date: 07/10/2018 18:06											
						LCSD Source: IC LCS_01278					
300.0	LCSD 280-421617/61	Chloride	99.6		mg/L	100	100	90-110	0	10	
Batch ID: 419575 Date: 06/22/2018 08:29											
						LCSD Source: FE ICV INT_00499					
SM3500_ FE D	LCSD 280-419575/4	Ferrous Iron	2.19		mg/L	2.00	110	85-113	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
METHOD REPORTING LIMIT CHECK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 418593 Date: 06/14/2018 11:57											
						LCS Source: IC Cal low_00377					
300.0	MRL 280-418593/3	Nitrate as N	0.202	J	mg/L	0.200	101	50-150			
Batch ID: 421176 Date: 07/05/2018 13:19											
						LCS Source: IC CAL cl/so4_00206					
300.0	MRL 280-421176/3	Chloride	2.48	J	mg/L	2.50	99	50-150			
300.0	MRL 280-421176/3	Sulfate	2.46	J	mg/L	2.50	99	50-150			
Batch ID: 421505 Date: 07/09/2018 16:31											
						LCS Source: IC CAL cl/so4_00207					
300.0	MRL 280-421505/3	Chloride	2.40	J	mg/L	2.50	96	50-150			
300.0	MRL 280-421505/3	Sulfate	2.45	J	mg/L	2.50	98	50-150			
Batch ID: 421617 Date: 07/10/2018 11:10											
						LCS Source: IC CAL cl/so4_00207					
300.0	MRL 280-421617/3	Chloride	2.55	J	mg/L	2.50	102	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: NOEQUIP  
Method: SM 4500 S2 F MDL Date: 03/12/2010 15:52

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfide		1	0.495



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: NOEQUIP  
Method: SM 4500 S2 F XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		1	0.495



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110943-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom7

Method: 300.0

MDL Date: 03/23/2010 16:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom7  
Method: 300.0 XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110943-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom8

Method: 300.0

MDL Date: 03/23/2010 16:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110943-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom8

Method: 300.0

MDL Date: 03/28/2011 13:33

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate as N		0.5	0.042



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom8  
Method: 300.0 XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110943-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom8

Method: 300.0

XMDL Date: 03/28/2011 13:33

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate as N		0.5	0.0425



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110943-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_SHI3

Method: 9060

MDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon - Average		1	0.155



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-110943-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_SHI3

Method: 9060

XMDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon - Average		1	0.155



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC-AT3  
Method: SM 2320B MDL Date: 03/28/2011 12:06

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		5	1.07



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC-AT3  
Method: SM 2320B XMDL Date: 03/28/2011 12:06

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	1.07



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_HACH SPEC  
Method: SM3500\_FE\_D MDL Date: 03/28/2011 12:11

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ferrous Iron		0.2	0.021



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-110943-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_HACH SPEC  
Method: SM3500\_FE\_D XMDL Date: 03/28/2011 12:11

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ferrous Iron		0.2	0.0207



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: NOEQUIP Analysis Method: SM 4500 S2 F  
 Start Date: 06/18/2018 07:45 End Date: 06/18/2018 07:45

Lab Sample Id	D/F	T Y P e	Time	Analytes																									
				S 2																									
MB 280-418908/1	1	T	07:45	X																									
LCS 280-418908/2	1	T	07:45	X																									
280-110943-3	1	T	07:45	X																									
280-110943-3 MS	1	T	07:45	X																									
280-110943-3 MSD	1	T	07:45	X																									
280-110943-4	1	T	07:45	X																									
280-110943-5	1	T	07:45	X																									
280-110943-12	1	T	07:45	X																									
280-110943-13	1	T	07:45	X																									
280-110943-14	1	T	07:45	X																									

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom7

Analysis Method: 300.0

Start Date: 07/05/2018 12:43

End Date: 07/06/2018 06:06

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
CCV 280-421176/1	1		12:43	X	X																								
CCB 280-421176/2	1		13:01	X	X																								
MRL 280-421176/3	1	T	13:19	X	X																								
LCS 280-421176/4	1	T	13:36	X	X																								
LCSD 280-421176/5	1	T	13:54	X	X																								
MB 280-421176/6	1	T	14:12	X	X																								
280-110943-1	1	T	15:16	X																									
280-110943-2	1	T	15:34	X																									
280-110943-3	1	T	15:52	X	X																								
280-110943-3 DU	1	T	16:10	X	X																								
280-110943-3 MS	1	T	16:28	X	X																								
280-110943-3 MSD	1	T	16:45	X	X																								
280-110943-4	1	T	17:03	X	X																								
280-110943-5	1	T	17:21	X	X																								
280-110943-6	1	T	17:39	X																									
280-110943-7	1	T	17:57	X																									
CCV 280-421176/17	1		18:14	X	X																								
CCB 280-421176/18	1		18:32	X	X																								
280-110943-8	1	T	18:50	X																									
280-110943-9	1	T	19:08	X																									
280-110943-9 DU	1	T	19:26	X																									
280-110943-9 MS	1	T	19:43	X																									
280-110943-9 MSD	1	T	20:01	X																									
ZZZZZZ			20:19																										
ZZZZZZ			20:37																										
ZZZZZZ			20:55																										
ZZZZZZ			21:12																										
ZZZZZZ			21:30																										
CCV 280-421176/29	1		21:48	X																									
CCB 280-421176/30	1		22:06	X																									
ZZZZZZ			22:24																										
ZZZZZZ			22:41																										
ZZZZZZ			22:59																										
ZZZZZZ			23:17																										
ZZZZZZ			23:35																										
ZZZZZZ			23:53																										
ZZZZZZ			00:10																										
ZZZZZZ			00:28																										
ZZZZZZ			00:46																										
ZZZZZZ			01:04																										
CCV 280-421176/41			01:22																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom7 Analysis Method: 300.0  
 Start Date: 07/05/2018 12:43 End Date: 07/06/2018 06:06

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
CCB 280-421176/42			01:39																										
ZZZZZZ			01:57																										
ZZZZZZ			02:15																										
ZZZZZZ			02:33																										
ZZZZZZ			02:51																										
ZZZZZZ			03:08																										
ZZZZZZ			03:26																										
ZZZZZZ			03:44																										
ZZZZZZ			04:02																										
ZZZZZZ			04:20																										
ZZZZZZ			04:37																										
CCV 280-421176/53			04:55																										
CCB 280-421176/54			05:13																										
ZZZZZZ			05:31																										
CCV 280-421176/56			05:49																										
CCB 280-421176/57			06:06																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom8 Analysis Method: 300.0  
 Start Date: 06/14/2018 11:13 End Date: 06/15/2018 04:24

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				N O 3																									
CCV 280-418593/1	1		11:13	X																									
CCB 280-418593/2	1		11:34	X																									
MRL 280-418593/3	1	T	11:57	X																									
LCS 280-418593/4	1	T	12:19	X																									
LCSD 280-418593/5	1	T	12:41	X																									
MB 280-418593/6	1	T	13:03	X																									
280-110943-3	1	T	17:26	X																									
280-110943-3 DU	1	T	17:48	X																									
280-110943-3 MS	1	T	19:09	X																									
280-110943-3 MSD	1	T	19:31	X																									
280-110943-4	1	T	19:53	X																									
280-110943-5	1	T	20:16	X																									
280-110943-12	1	T	20:38	X																									
280-110943-13	1	T	21:00	X																									
280-110943-14	1	T	21:22	X																									
ZZZZZZ			21:44																										
CCV 280-418593/17	1		22:07	X																									
CCB 280-418593/18	1		22:29	X																									
ZZZZZZ			22:51																										
ZZZZZZ			23:13																										
ZZZZZZ			23:36																										
ZZZZZZ			23:58																										
ZZZZZZ			00:20																										
ZZZZZZ			00:42																										
ZZZZZZ			01:04																										
ZZZZZZ			01:27																										
ZZZZZZ			01:49																										
ZZZZZZ			02:11																										
CCV 280-418593/29			02:33																										
CCB 280-418593/30			02:56																										
ZZZZZZ			03:18																										
ZZZZZZ			03:40																										
CCV 280-418593/33			04:02																										
CCB 280-418593/34			04:24																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom8 Analysis Method: 300.0  
 Start Date: 06/25/2018 19:14 End Date: 06/26/2018 10:02

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
RTC 280-419995/1			19:14																										
STD 280-419995/2 IC	1		19:36	X	X																								
STD 280-419995/3 IC	1		19:58	X	X																								
STD 280-419995/4 IC	1		20:20	X	X																								
STD 280-419995/5 IC	1		20:42	X	X																								
STD 280-419995/6 IC	1		21:05	X	X																								
STD 280-419995/7 IC	1		21:27	X	X																								
ICV 280-419995/8	1		21:49	X	X																								
ICB 280-419995/9	1		22:11	X	X																								
ZZZZZZ			22:33																										
ZZZZZZ			22:56																										
ZZZZZZ			23:18																										
ZZZZZZ			23:40																										
ZZZZZZ			00:02																										
ZZZZZZ			00:25																										
ZZZZZZ			00:47																										
ZZZZZZ			01:09																										
ZZZZZZ			01:31																										
ZZZZZZ			01:53																										
ZZZZZZ			02:16																										
ZZZZZZ			02:38																										
ZZZZZZ			03:00																										
ZZZZZZ			03:22																										
CCV 280-419995/24			03:45																										
CCB 280-419995/25			04:07																										
ZZZZZZ			04:29																										
ZZZZZZ			04:51																										
ZZZZZZ			05:13																										
ZZZZZZ			05:36																										
ZZZZZZ			05:58																										
ZZZZZZ			06:20																										
ZZZZZZ			06:42																										
ZZZZZZ			07:04																										
ZZZZZZ			07:27																										
ZZZZZZ			07:49																										
CCV 280-419995/36			08:11																										
CCB 280-419995/37			08:33																										
ZZZZZZ			08:56																										
ZZZZZZ			09:18																										
CCV 280-419995/40			09:40																										
CCB 280-419995/41			10:02																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8 Analysis Method: 300.0

Start Date: 06/25/2018 19:14 End Date: 06/26/2018 10:02

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								

Prep Types: \_\_\_\_\_  
=



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8

Analysis Method: 300.0

Start Date: 07/09/2018 15:47

End Date: 07/10/2018 08:06

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
CCV 280-421505/1	1		15:47	X	X																								
CCB 280-421505/2	1		16:09	X	X																								
MRL 280-421505/3	1	T	16:31	X	X																								
LCS 280-421505/4	1	T	16:54	X	X																								
LCSD 280-421505/5	1	T	17:16	X	X																								
MB 280-421505/6	1	T	17:38	X	X																								
ZZZZZZ			21:00																										
280-111725-G-3 DU	1		21:22	X	X																								
280-111725-G-3 MS	1		21:44	X	X																								
280-111725-G-3 MSD	1		22:06	X	X																								
ZZZZZZ			22:29																										
ZZZZZZ			22:51																										
ZZZZZZ			23:13																										
ZZZZZZ			23:35																										
ZZZZZZ			23:58																										
ZZZZZZ			00:20																										
CCV 280-421505/17	1		00:42	X	X																								
CCB 280-421505/18	1		01:04	X	X																								
280-110851-A-31 DU	5	T	01:26	X																									
280-110851-A-31 MS	5	T	01:49	X																									
280-110851-A-31 MSD	5	T	02:11	X																									
280-110943-10	1	T	02:33	X																									
280-110943-11	50	T	02:55	X																									
280-110943-12	1	T	03:17	X	X																								
280-110943-13	1	T	03:40	X	X																								
280-110943-14	1	T	04:02	X	X																								
ZZZZZZ			04:24																										
280-110943-16	1	T	04:46	X																									
CCV 280-421505/29	1		05:09	X	X																								
CCB 280-421505/30	1		05:31	X	X																								
ZZZZZZ			05:53																										
ZZZZZZ			06:15																										
ZZZZZZ			06:37																										
ZZZZZZ			07:00																										
ZZZZZZ			07:22																										
CCV 280-421505/36			07:44																										
CCB 280-421505/37			08:06																										

Prep Types: \_\_\_\_\_

T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom8 Analysis Method: 300.0  
 Start Date: 07/10/2018 10:26 End Date: 07/11/2018 19:05

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -																									
CCV 280-421617/1	1		10:26	X																									
CCB 280-421617/2	1		10:48	X																									
MRL 280-421617/3	1	T	11:10	X																									
ZZZZZZ			11:33																										
ZZZZZZ			11:55																										
ZZZZZZ			12:17																										
ZZZZZZ			15:21																										
ZZZZZZ			15:43																										
ZZZZZZ			16:37																										
ZZZZZZ			16:59																										
ZZZZZZ			17:21																										
LCS 280-421617/60	1	T	17:43	X																									
LCSD 280-421617/61	1	T	18:06	X																									
MB 280-421617/12	1	T	18:51	X																									
CCV 280-421617/13	1		19:13	X																									
CCB 280-421617/14	1		19:35	X																									
ZZZZZZ			19:57																										
ZZZZZZ			20:20																										
ZZZZZZ			20:42																										
ZZZZZZ			21:04																										
ZZZZZZ			21:26																										
ZZZZZZ			21:48																										
ZZZZZZ			22:11																										
ZZZZZZ			22:33																										
ZZZZZZ			22:55																										
ZZZZZZ			23:17																										
CCV 280-421617/25			23:39																										
CCB 280-421617/26			00:02																										
ZZZZZZ			00:24																										
ZZZZZZ			00:46																										
ZZZZZZ			01:08																										
ZZZZZZ			01:31																										
ZZZZZZ			01:53																										
ZZZZZZ			02:15																										
ZZZZZZ			02:37																										
ZZZZZZ			02:59																										
ZZZZZZ			03:22																										
ZZZZZZ			03:44																										
CCV 280-421617/37	1		04:06	X																									
CCB 280-421617/38	1		04:28	X																									
ZZZZZZ			04:51																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom8 Analysis Method: 300.0  
 Start Date: 07/10/2018 10:26 End Date: 07/11/2018 19:05

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -																									
ZZZZZZ			05:13																										
280-111006-B-6 DU	5	T	05:35	X																									
280-111006-B-6 MS	5	T	05:57	X																									
280-111006-B-6 MSD	5	T	06:19	X																									
ZZZZZZ			06:42																										
ZZZZZZ			07:04																										
ZZZZZZ			07:26																										
ZZZZZZ			07:48																										
ZZZZZZ			08:11																										
CCV 280-421617/49	1		08:33	X																									
CCB 280-421617/50	1		08:55	X																									
ZZZZZZ			09:17																										
ZZZZZZ			09:39																										
ZZZZZZ			10:02																										
ZZZZZZ			10:24																										
ZZZZZZ			10:46																										
ZZZZZZ			11:08																										
280-110943-15	5	T	11:31	X																									
280-110943-17	5	T	11:53	X																									
280-110943-18	5	T	12:15	X																									
ZZZZZZ			12:37																										
CCV 280-421617/66	1		16:29	X																									
CCB 280-421617/67	1		16:51	X																									
ZZZZZZ			17:13																										
ZZZZZZ			17:36																										
ZZZZZZ			17:58																										
ZZZZZZ			18:20																										
CCV 280-421617/72			18:42																										
CCB 280-421617/73			19:05																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI3 Analysis Method: 9060  
 Start Date: 06/27/2018 15:12 End Date: 06/28/2018 09:24

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				T O C Q																									
ICV 280-420381/1	1		15:12	X																									
ICB 280-420381/2	1		15:26	X																									
ZZZZZZ			15:45																										
ZZZZZZ			16:00																										
ZZZZZZ			16:14																										
ZZZZZZ			16:31																										
ZZZZZZ			16:46																										
ZZZZZZ			17:01																										
ZZZZZZ			17:15																										
ZZZZZZ			17:36																										
ZZZZZZ			17:53																										
ZZZZZZ			18:10																										
ZZZZZZ			18:28																										
ZZZZZZ			18:43																										
CCV 280-420381/15			19:00																										
CCB 280-420381/16			19:15																										
ZZZZZZ			19:31																										
ZZZZZZ			19:48																										
ZZZZZZ			20:07																										
ZZZZZZ			20:24																										
ZZZZZZ			20:40																										
ZZZZZZ			20:59																										
ZZZZZZ			21:18																										
ZZZZZZ			21:35																										
ZZZZZZ			21:51																										
ZZZZZZ			22:10																										
CCV 280-420381/27	1		22:29	X																									
CCB 280-420381/28	1		22:44	X																									
ZZZZZZ			22:58																										
ZZZZZZ			23:15																										
ZZZZZZ			23:32																										
ZZZZZZ			23:47																										
ZZZZZZ			00:01																										
LCS 280-420381/34	1	T	00:16	X																									
MB 280-420381/35	1	T	00:31	X																									
ZZZZZZ			00:46																										
280-110943-2	1	T	01:00	X																									
280-110943-15	1	T	01:15	X																									
CCV 280-420381/39	1		01:32	X																									
CCB 280-420381/40	1		01:47	X																									



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI3 Analysis Method: 9060  
 Start Date: 06/27/2018 15:12 End Date: 06/28/2018 09:24

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				T O C Q																									
280-110943-9	1	T	02:04	X																									
280-110943-9 MS	1	T	02:18	X																									
280-110943-9 MSD	1	T	02:33	X																									
280-110943-16	1	T	02:50	X																									
280-110943-5	1	T	03:05	X																									
280-110943-14	1	T	03:21	X																									
280-110943-1	1	T	03:38	X																									
280-110943-4	1	T	03:57	X																									
280-110943-6	1	T	04:16	X																									
280-110943-10	1	T	04:34	X																									
CCV 280-420381/51	1		04:51	X																									
CCB 280-420381/52	1		05:08	X																									
280-110943-8	1	T	05:25	X																									
280-110943-7	1	T	05:42	X																									
280-110943-3	1	T	06:00	X																									
280-110943-3 MS	1	T	06:17	X																									
280-110943-3 MSD	1	T	06:36	X																									
280-110943-18	1	T	06:53	X																									
280-110943-17	1	T	07:12	X																									
280-110943-13	1	T	07:28	X																									
280-110943-12	1	T	07:47	X																									
ZZZZZZ			08:04																										
CCV 280-420381/63	1		08:21	X																									
CCB 280-420381/64	1		08:37	X																									
ZZZZZZ			08:54																										
CCV 280-420381/66			09:09																										
CCB 280-420381/67			09:24																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC-AT3 Analysis Method: SM 2320B  
 Start Date: 06/23/2018 11:53 End Date: 06/23/2018 19:02

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				A l k																									
RINSE 280-419814/1			11:53																										
ZZZZZZ			12:06																										
ZZZZZZ			12:12																										
LCS 280-419814/4	1	T	12:19	X																									
MB 280-419814/5	1	T	12:24	X																									
ZZZZZZ			12:30																										
280-110879-A-6 DU	1	T	12:37	X																									
ZZZZZZ			12:43																										
ZZZZZZ			12:51																										
ZZZZZZ			12:57																										
ZZZZZZ			13:02																										
ZZZZZZ			13:07																										
ZZZZZZ			13:12																										
ZZZZZZ			13:18																										
ZZZZZZ			13:24																										
CCV 280-419814/16	1		13:31	X																									
CCB 280-419814/17	1		13:35	X																									
ZZZZZZ			13:45																										
ZZZZZZ			13:54																										
280-110943-3	1	T	14:00	X																									
280-110943-4	1	T	14:08	X																									
280-110943-5	1	T	14:13	X																									
280-110943-12	1	T	14:19	X																									
280-110943-13	1	T	14:25	X																									
280-110943-14	1	T	14:33	X																									
ZZZZZZ			14:42																										
ZZZZZZ			14:51																										
CCV 280-419814/28	1		14:57	X																									
CCB 280-419814/29	1		15:02	X																									
ZZZZZZ			15:08																										
ZZZZZZ			15:12																										
ZZZZZZ			15:20																										
ZZZZZZ			15:28																										
ZZZZZZ			15:35																										
ZZZZZZ			15:42																										
ZZZZZZ			15:48																										
ZZZZZZ			15:54																										
ZZZZZZ			15:59																										
ZZZZZZ			16:05																										
ZZZZZZ			16:10																										
ZZZZZZ			16:16																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC-AT3 Analysis Method: SM 2320B  
 Start Date: 06/23/2018 11:53 End Date: 06/23/2018 19:02

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				A l k																									
CCV 280-419814/42			16:22																										
CCB 280-419814/43			16:26																										
ZZZZZZ			16:31																										
ZZZZZZ			16:36																										
ZZZZZZ			16:42																										
ZZZZZZ			16:46																										
ZZZZZZ			16:53																										
ZZZZZZ			17:00																										
ZZZZZZ			17:07																										
ZZZZZZ			17:16																										
ZZZZZZ			17:23																										
ZZZZZZ			17:30																										
CCV 280-419814/54			17:36																										
CCB 280-419814/55			17:41																										
ZZZZZZ			17:47																										
ZZZZZZ			17:52																										
ZZZZZZ			17:57																										
ZZZZZZ			18:03																										
ZZZZZZ			18:10																										
ZZZZZZ			18:18																										
ZZZZZZ			18:24																										
ZZZZZZ			18:29																										
ZZZZZZ			18:32																										
ZZZZZZ			18:37																										
ZZZZZZ			18:40																										
RINSE 280-419814/67			18:44																										
ZZZZZZ			18:47																										
RINSE 280-419814/69			18:51																										
CCV 280-419814/70			18:57																										
CCB 280-419814/71			19:02																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-110943-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_HACH SPEC Analysis Method: SM3500\_FE\_D  
 Start Date: 06/22/2018 08:29 End Date: 06/22/2018 08:31

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				F e 2																									
ICV 280-419575/1	1		08:29	X																									
ICB 280-419575/2	1		08:29	X																									
LCS 280-419575/3	1	T	08:29	X																									
LCSD 280-419575/4	1	T	08:29	X																									
MB 280-419575/5	1	T	08:29	X																									
280-110943-3	1	T	08:29	X																									
280-110943-3 DU	1	T	08:29	X																									
280-110943-3 MS	1	T	08:29	X																									
280-110943-3 MSD	1	T	08:29	X																									
280-110943-4	5	T	08:29	X																									
280-110943-5	1	T	08:31	X																									
280-110943-12	1	T	08:31	X																									
280-110943-13	1	T	08:31	X																									
280-110943-14	1	T	08:31	X																									
CCV 280-419575/15	1		08:31	X																									
CCB 280-419575/16	1		08:31	X																									

Prep Types: \_\_\_\_\_  
 T = Total/NA



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 418908 Batch Start Date: 06/18/18 07:45 Batch Analyst: Weigand, Adam WBatch Method: SM 4500 S2 F Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStart1	BuretStop1	IodineAmount	TitrantVolume1	InitialAmount	FinalAmount
MB 280-418908/1		SM 4500 S2 F		0.10 mL	5.10 mL	5 mL	5 mL	200 mL	200 mL
LCS 280-418908/2		SM 4500 S2 F		5.10 mL	11.20 mL	20 mL	6.1 mL	200 mL	200 mL
280-110943-B-3	AFDV-121	SM 4500 S2 F	T	11.20 mL	16.20 mL	5 mL	5 mL	200 mL	200 mL
280-110943-B-3 MS	AFDV-121	SM 4500 S2 F	T	16.20 mL	22.20 mL	20 mL	6 mL	200 mL	200 mL
280-110943-B-3 MSD	AFDV-121	SM 4500 S2 F	T	22.20 mL	28.20 mL	20 mL	6 mL	200 mL	200 mL
280-110943-B-4	AFDV-130	SM 4500 S2 F	T	28.20 mL	33.20 mL	5 mL	5 mL	200 mL	200 mL
280-110943-B-5	AFDV-144	SM 4500 S2 F	T	34.00 mL	38.90 mL	5 mL	4.9 mL	200 mL	200 mL
280-110943-B-12	AFDV-109	SM 4500 S2 F	T	38.90 mL	43.90 mL	5 mL	5 mL	200 mL	200 mL
280-110943-B-13	AFDV-101	SM 4500 S2 F	T	43.90 mL	48.90 mL	5 mL	5 mL	200 mL	200 mL
280-110943-B-14	AFDV-117	SM 4500 S2 F	T	10.00 mL	15.00 mL	5 mL	5 mL	200 mL	200 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	SFD CAL INT 01500	AnalysisComment				
MB 280-418908/1		SM 4500 S2 F							
LCS 280-418908/2		SM 4500 S2 F		5 mL					
280-110943-B-3	AFDV-121	SM 4500 S2 F	T		4mL HCL Sol added				
280-110943-B-3 MS	AFDV-121	SM 4500 S2 F	T	5 mL	4mL HCL Sol added				
280-110943-B-3 MSD	AFDV-121	SM 4500 S2 F	T	5 mL	4mL HCL Sol added				
280-110943-B-4	AFDV-130	SM 4500 S2 F	T		4mL HCL Sol added				
280-110943-B-5	AFDV-144	SM 4500 S2 F	T		4mL HCL Sol added				
280-110943-B-12	AFDV-109	SM 4500 S2 F	T		4mL HCL Sol added				
280-110943-B-13	AFDV-101	SM 4500 S2 F	T		4mL HCL Sol added				
280-110943-B-14	AFDV-117	SM 4500 S2 F	T		4mL HCL Sol added				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 4500 S2 F

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 418908 Batch Start Date: 06/18/18 07:45 Batch Analyst: Weigand, Adam WBatch Method: SM 4500 S2 F Batch End Date: \_\_\_\_\_

Batch Notes	
Hydrochloric Acid ID	HCL Sol_00154
Iodine ID	Iod_00200
Normality of Iodine Solution	0.0250 N
Sodium Thiosulfate ID	Na Thio_00131
Nominal Amount Used	200 mL
Pipette/Syringe/Dispenser ID	AZ1000, AZ5000
Starch Reagent ID	Starch Ind_00048
Normality of First Titrant	0.0250 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 416827 Batch Start Date: 05/30/18 16:43 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00201	IC Cal low 00370		
STD 280-416827/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-416827/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-416827/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-416827/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-416827/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-416827/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 1



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 417405 Batch Start Date: 06/05/18 10:15 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00202	IC Cal low 00373		
STD 280-417405/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-417405/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-417405/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-417405/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-417405/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-417405/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	171210701013
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 1



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 418593 Batch Start Date: 06/14/18 11:13 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00203	IC Cal low 00377	IC LCS 01256	ICMS/MSD WEEK 00537
CCV 280-418593/1		300.0		5 mL	5 mL			5 mL	
CCB 280-418593/2		300.0		5 mL	5 mL				
MRL 280-418593/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-418593/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-418593/5		300.0		5 mL	5 mL			5 mL	
MB 280-418593/6		300.0		5 mL	5 mL				
280-110943-C-3	AFDV-121	300.0	T	5 mL	5 mL				
280-110943-C-3 DU	AFDV-121	300.0	T	5 mL	5 mL				
280-110943-C-3 MS	AFDV-121	300.0	T	5 mL	5 mL				0.05 mL
280-110943-C-3 MSD	AFDV-121	300.0	T	5 mL	5 mL				0.05 mL
280-110943-C-4	AFDV-130	300.0	T	5 mL	5 mL				
280-110943-C-5	AFDV-144	300.0	T	5 mL	5 mL				
280-110943-C-12	AFDV-109	300.0	T	5 mL	5 mL				
280-110943-C-13	AFDV-101	300.0	T	5 mL	5 mL				
280-110943-C-14	AFDV-117	300.0	T	5 mL	5 mL				
CCV 280-418593/17		300.0		5 mL	5 mL			5 mL	
CCB 280-418593/18		300.0		5 mL	5 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 1



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419995 Batch Start Date: 06/25/18 19:14 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00205	IC Cal low 00380	IC CL ICV 00014	IC ICV 5 00203
STD 280-419995/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-419995/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-419995/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-419995/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-419995/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-419995/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		
ICV 280-419995/8		300.0		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-419995/9		300.0		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-419995/2 IC		300.0							
STD 280-419995/3 IC		300.0							
STD 280-419995/4 IC		300.0							
STD 280-419995/5 IC		300.0							
STD 280-419995/6 IC		300.0							
STD 280-419995/7 IC		300.0							
ICV 280-419995/8		300.0		0.4 mL					
ICB 280-419995/9		300.0							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419995 Batch Start Date: 06/25/18 19:14 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Pipette/Syringe/Dispenser ID	5000ccj, 1000cj, 200cj
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421176 Batch Start Date: 07/05/18 12:43 Batch Analyst: Allen, Andrew JBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00206	IC Cal low 00381	IC LCS 01274	ICMS/MSD WEEK 00540
CCV 280-421176/1		300.0		5 mL	5 mL			5 mL	
CCB 280-421176/2		300.0		5 mL	5 mL				
MRL 280-421176/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-421176/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-421176/5		300.0		5 mL	5 mL			5 mL	
MB 280-421176/6		300.0		5 mL	5 mL				
280-110943-B-1	AFDV-104	300.0	T	5 mL	5 mL				
280-110943-B-2	AFDV-111	300.0	T	5 mL	5 mL				
280-110943-C-3	AFDV-121	300.0	T	5 mL	5 mL				
280-110943-C-3 DU	AFDV-121	300.0	T	5 mL	5 mL				
280-110943-C-3 MS	AFDV-121	300.0	T	5 mL	5 mL				0.05 mL
280-110943-C-3 MSD	AFDV-121	300.0	T	5 mL	5 mL				0.05 mL
280-110943-C-4	AFDV-130	300.0	T	5 mL	5 mL				
280-110943-C-5	AFDV-144	300.0	T	5 mL	5 mL				
280-110943-B-6	AFDV-114	300.0	T	5 mL	5 mL				
280-110943-B-7	AFDV-140	300.0	T	5 mL	5 mL				
CCV 280-421176/17		300.0		5 mL	5 mL			5 mL	
CCB 280-421176/18		300.0		5 mL	5 mL				
280-110943-B-8	AFDV-115	300.0	T	5 mL	5 mL				
280-110943-B-9	AFDV-138	300.0	T	5 mL	5 mL				
280-110943-B-9 DU	AFDV-138	300.0	T	5 mL	5 mL				
280-110943-B-9 MS	AFDV-138	300.0	T	5 mL	5 mL				0.05 mL
280-110943-B-9 MSD	AFDV-138	300.0	T	5 mL	5 mL				0.05 mL
280-110943-B-9	AFDV-138	300.0	T	5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421176 Batch Start Date: 07/05/18 12:43 Batch Analyst: Allen, Andrew JBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00206	IC Cal low 00381	IC LCS 01274	ICMS/MSD WEEK 00540
280-110943-B-9 DU	AFDV-138	300.0	T	5 mL	5 mL				
280-110943-B-9 MS	AFDV-138	300.0	T	5 mL	5 mL				0.05 mL
280-110943-B-9 MSD	AFDV-138	300.0	T	5 mL	5 mL				0.05 mL
CCV 280-421176/29		300.0		5 mL	5 mL			5 mL	
CCB 280-421176/30		300.0		5 mL	5 mL				

Batch Notes	
Pipette/Syringe/Dispenser ID	WC5000ccj, WC1000cj, WC200cj
Regeneration Solution ID	171210701013
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 2 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421505 Batch Start Date: 07/09/18 15:47 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00207	IC Cal low 00382	IC LCS 01277	ICMS/MSD WEEK 00541
CCV 280-421505/1		300.0		5 mL	5 mL			5 mL	
CCB 280-421505/2		300.0		5 mL	5 mL				
MRL 280-421505/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-421505/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-421505/5		300.0		5 mL	5 mL			5 mL	
MB 280-421505/6		300.0		5 mL	5 mL				
280-111725-G-3 DU		300.0		5 mL	5 mL				
280-111725-G-3 MS		300.0		5 mL	5 mL				0.05 mL
280-111725-G-3 MSD		300.0		5 mL	5 mL				0.05 mL
CCV 280-421505/17		300.0		5 mL	5 mL			5 mL	
CCB 280-421505/18		300.0		5 mL	5 mL				
280-110851-A-31 DU		300.0	T	5 mL	5 mL				
280-110851-A-31 MS		300.0	T	5 mL	5 mL				0.05 mL
280-110851-A-31 MSD		300.0	T	5 mL	5 mL				0.05 mL
280-110943-B-10	AFDV-107	300.0	T	5 mL	5 mL				
280-110943-A-11	AFDV-143	300.0	T	5 mL	5 mL				
280-110943-C-12	AFDV-109	300.0	T	5 mL	5 mL				
280-110943-C-13	AFDV-101	300.0	T	5 mL	5 mL				
280-110943-C-14	AFDV-117	300.0	T	5 mL	5 mL				
280-110943-B-16	AFDV-139	300.0	T	5 mL	5 mL				
CCV 280-421505/29		300.0		5 mL	5 mL			5 mL	
CCB 280-421505/30		300.0		5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421505 Batch Start Date: 07/09/18 15:47 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Pipette/Syringe/Dispenser ID	5000ics, 1000d, 100c
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421617 Batch Start Date: 07/10/18 10:26 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00207	IC Cal low 00382	IC LCS 01278	ICMS/MSD WEEK 00541
CCV 280-421617/1		300.0		5 mL	5 mL			5 mL	
CCB 280-421617/2		300.0		5 mL	5 mL				
MRL 280-421617/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
MB 280-421617/12		300.0		5 mL	5 mL				
CCV 280-421617/13		300.0		5 mL	5 mL			5 mL	
CCB 280-421617/14		300.0		5 mL	5 mL				
CCV 280-421617/37		300.0		5 mL	5 mL			5 mL	
CCB 280-421617/38		300.0		5 mL	5 mL				
280-111006-B-6 DU		300.0	T	5 mL	5 mL				
280-111006-B-6 MS		300.0	T	5 mL	5 mL				0.05 mL
280-111006-B-6 MSD		300.0	T	5 mL	5 mL				0.05 mL
CCV 280-421617/49		300.0		5 mL	5 mL			5 mL	
CCB 280-421617/50		300.0		5 mL	5 mL				
LCS 280-421617/60		300.0		5 mL	5 mL			5 mL	
LCSD 280-421617/61		300.0		5 mL	5 mL			5 mL	
280-110943-B-15	AFDV-113	300.0	T	5 mL	5 mL				
280-110943-B-17	AFDV-141	300.0	T	5 mL	5 mL				
280-110943-B-18	AFDV-142	300.0	T	5 mL	5 mL				
CCV 280-421617/66		300.0		5 mL	5 mL			5 mL	
CCB 280-421617/67		300.0		5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 421617 Batch Start Date: 07/10/18 10:26 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Filter ID	R6JA90771
Pipette/Syringe/Dispenser ID	wc5000ccjm wc1000cj, wc200cj
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 2 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 420381 Batch Start Date: 06/27/18 15:12 Batch Analyst: Duplin, Alysha 1Batch Method: 9060 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	TOC ICV Std 00033	TOC LCS Std 00041			
ICV 280-420381/1		9060		50 mL	1 mL				
CCV 280-420381/27		9060		200 mL		5 mL			
LCS 280-420381/34		9060		200 mL		5 mL			
CCV 280-420381/39		9060		200 mL		5 mL			
280-110943-A-9 MS	AFDV-138	9060	T	50 mL		1.25 mL			
280-110943-A-9 MSD	AFDV-138	9060	T	50 mL		1.25 mL			
CCV 280-420381/51		9060		200 mL		5 mL			
280-110943-A-3 MS	AFDV-121	9060	T	50 mL		1.25 mL			
280-110943-A-3 MSD	AFDV-121	9060	T	50 mL		1.25 mL			
CCV 280-420381/63		9060		200 mL		5 mL			

Batch Notes	
Acid ID	H2SO4_00179 0.2%H2SO4_00300
Combustion Catylst ID	17001D-01
Pipette/Syringe/Dispenser ID	5000ad

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419814 Batch Start Date: 06/23/18 11:53 Batch Analyst: Loux, Lauren PBatch Method: SM 2320B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	Alk daily lcs 00750				
LCS 280-419814/4		SM 2320B		InitialAmount is blank	1 mL				
MB 280-419814/5		SM 2320B		InitialAmount is blank					
280-110879-A-6 DU		SM 2320B	T	InitialAmount is blank					
CCV 280-419814/16		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-419814/17		SM 2320B		InitialAmount is blank					
280-110943-C-3	AFDV-121	SM 2320B	T	InitialAmount is blank					
280-110943-C-4	AFDV-130	SM 2320B	T	InitialAmount is blank					
280-110943-C-5	AFDV-144	SM 2320B	T	InitialAmount is blank					
280-110943-C-12	AFDV-109	SM 2320B	T	InitialAmount is blank					
280-110943-C-13	AFDV-101	SM 2320B	T	InitialAmount is blank					
280-110943-C-14	AFDV-117	SM 2320B	T	InitialAmount is blank					
CCV 280-419814/28		SM 2320B		InitialAmount is blank	1 mL				
CCB 280-419814/29		SM 2320B		InitialAmount is blank					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 2320B

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419814 Batch Start Date: 06/23/18 11:53 Batch Analyst: Loux, Lauren PBatch Method: SM 2320B Batch End Date: \_\_\_\_\_

Batch Notes	
Acid ID	0.02H2SO4_00245
pH Buffer 1 ID	pH2buffer_00070
pH Buffer 2 ID	pH4buffer_00170
pH Buffer 3 ID	pH7buffer_00239
pH Buffer 4 ID	pH10buffer_00133
pH Buffer 5 ID	pH12buffer_00136
pH Buffer 6 ID	pH7buffer_00234
Nominal Amount Used	10 mL
Pipette/Syringe/Dispenser ID	5000AD
Probe ID	PCE 86 pH 1105 sep 14
Normality of First Titrant	0.02 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 415638 Batch Start Date: 05/21/18 10:47 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	FE Cal INT 00495		
IC 280-415638/30		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank			
IC 280-415638/31		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	0.2 mL		
IC 280-415638/32		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	0.5 mL		
IC 280-415638/33		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
IC 280-415638/34		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	2 mL		
IC 280-415638/35		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	3 mL		

Batch Notes	
Batch Comment	accuvac vial lot A7277 IU trained by CJ

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D

Page 1 of 1



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-110943-1

SDG No.: \_\_\_\_\_

Batch Number: 419575 Batch Start Date: 06/22/18 08:29 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	FE Cal INT 00499	FE ICV INT 00499	
ICV 280-419575/1		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		1 mL	
ICB 280-419575/2		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			
LCS 280-419575/3		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		2 mL	
LCSD 280-419575/4		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		2 mL	
MB 280-419575/5		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			
280-110943-C-3	AFDV-121	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110943-C-3 DU	AFDV-121	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110943-C-3 MS	AFDV-121	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-110943-C-3 MSD	AFDV-121	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-110943-C-4	AFDV-130	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110943-C-5	AFDV-144	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110943-C-12	AFDV-109	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110943-C-13	AFDV-101	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-110943-C-14	AFDV-117	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
CCV 280-419575/15		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
CCB 280-419575/16		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			

Batch Notes	
Batch Comment	accuvac vial lot A8071 IU trained by CJ

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D

Page 1 of 1



# Shipping and Receiving Documents



## TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]



# Chain of Custody Record

<b>Client Information</b> Client Contact: Ms. Shannon Olson Company: CH2M Hill, Inc. Address: 2020 SW 4th Ave, Suite 300 City: Portland State, Zip: OR, 97201 Phone: 503-736-4111 Email: shannon.olson@ch2m.com Project Name: THAN DAVENPORT - JUNE 2015 GW Site: Dav, Tower		Sampler: C. Russ Phone: 970-222-1996		Lab PM: Jamie Ide, 303-736-0126 E-Mail: jamie.ide@testamericainc.com		Carrier Tracking No(s): FedEx		COC No: 2018-6 Page: 1 of 1		
		Due Date Requested: See saw TAT Requested (days): standard		<b>Analysis Requested</b>		Job #:  Preservation Codes: A - HCL      M - Hexane B - NaOH      N - None C - Zn Acetate      O - AsNaO2 D - Nitric Acid      P - Na2O4S E - NaHSO4      Q - Na2SO3 F - MeOH      R - Na2S2SO3 G - Amchlor      S - H2SO4 H - Ascorbic Acid      T - TSP Dodecahydrate I - Ice      U - Acetone J - DI Water      V - MCAA K - EDTA      W - ph 4-5 L - EDA      Z - other (specify)		Other:		
<b>Sample Identification</b>		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs 9060 - TOC 300.0 - Nitrate 300.0 - Chloride 300.0 - Sulfate 2320B - Alkalinity SM4500_S2_F - Sulfide RSK-175 - Dissolved Gases (MEE) 3500_FE_E - Ferrous Iron	Total Number of containers	Special Instructions/Note:
AFDV-114		6/13/18	1450	G	W	X	X	X	5	Shortholds: Ferrous Iron, Nitrate(NO3)
AFDV-146		↓	1410	↓	↓	X	X	X	5	
AFDV-115		↓	1455	↓	↓	X	X	X	5	
AFDV-138		↓	1430	↓	↓	X	X	X	15	MS/MSD
AFDV-151		↓	1630	↓	↓	X			2	
AFDV-107		↓	1609	↓	↓	X	X	X	5	
AFDV-143		↓	1640	↓	↓	X			1	Permanganate
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)    See saw										
<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:										
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:				
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:						



## TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-110943-1

**Login Number: 110943**  
**List Number: 1**  
**Creator: Dunlap, Krista M**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Refer to Job Narrative for details.
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Job Number: 280-111005-1

Job Description: THAN Davenport, IA - June 2018

For:  
CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201  
Attention: Ms. Shannon Olson



Approved for release.  
Jamie N Ide  
Project Manager I  
7/17/2018 2:23 PM

---

Jamie N Ide, Project Manager I  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0126  
jamie.ide@testamericainc.com  
07/17/2018  
Revision: 1

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	4
Definitions . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	7
Client Sample Results . . . . .	9
Default Detection Limits . . . . .	15
Surrogate Summary . . . . .	16
QC Sample Results . . . . .	17
QC Association . . . . .	25
Chronicle . . . . .	27
Certification Summary . . . . .	29
Method Summary . . . . .	30
Sample Summary . . . . .	31
Manual Integration Summary . . . . .	32
Reagent Traceability . . . . .	34
Organic Sample Data . . . . .	44
GC/MS VOA . . . . .	44
Method 8260B . . . . .	44
Method 8260B QC Summary . . . . .	45
Method 8260B Sample Data . . . . .	66
Standards Data . . . . .	77
Method 8260B ICAL Data . . . . .	77
Method 8260B CCAL Data . . . . .	204
Raw QC Data . . . . .	223
Method 8260B Blank Data . . . . .	223



# Table of Contents

Method 8260B LCS/LCSD Data .....	225
Method 8260B MS/MSD Data .....	227
Method 8260B Run Logs .....	231
Method 8260B Prep Data .....	258
<b>Inorganic Sample Data .....</b>	<b>270</b>
<b>General Chemistry Data .....</b>	<b>270</b>
Gen Chem Cover Page .....	271
Gen Chem Sample Data .....	272
Gen Chem QC Data .....	279
Gen Chem ICV/CCV .....	279
Gen Chem Blanks .....	281
Gen Chem MS/MSD/PDS .....	282
Gen Chem Duplicates .....	284
Gen Chem LCS/LCSD .....	285
Gen Chem MDL .....	288
Gen Chem Analysis Run Log .....	292
Gen Chem Prep Data .....	296
<b>Shipping and Receiving Documents .....</b>	<b>300</b>
Client Chain of Custody .....	301
Sample Receipt Checklist .....	303



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



**CASE NARRATIVE**  
**Client: CH2M Hill, Inc.**  
**Project: THAN Davenport, IA - June 2018**  
**Report Number: 280-111005-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**REVISION - 7/17/18**

The 8260B results for sample AFDV-136 (280-111005-3) were reported in a different dilution format than all other samples in error; the undilute value for cis-1,2-Dichloroethene was not reported in error. This has been corrected as the undilute value is reported with E flag.

**RECEIPT**

The samples were received on 6/15/2018 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8° C and 1.4° C.

1 x 250mL unpreserved plastic container requesting 300.0 Chloride analysis for sample AFDV-103 (280-111005-7) was received only ~175mL full. Sufficient volume remains for the requested analysis. The client was notified on 6/18/18.

2 of 3 HCl preserved VOA vials for the requested 8260B VOCs analysis for sample AFDV-102 (280-111005-5) were received with a headspace bubble greater than 6mm in diameter. Sufficient sample volume without headspace was received to perform the requested analyses. The client was notified on 6/18/18.

3 of 3 HCl preserved VOA vials for the requested 8260B VOCs analysis for sample AFDV-136 (280-111005-3) were received with a headspace bubble greater than 6mm in diameter. Analytical results may be biased low due to headspace. The laboratory will proceed with the requested analysis unless instructed otherwise. The client was notified on 6/18/18.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples AFDV-136 (280-111005-3), AFDV-137 (280-111005-4), AFDV-102 (280-111005-5), AFDV-135 (280-111005-6), AFDV-153 (280-111005-8), AFDV-152 (280-111005-9) and AFDV-154 (280-111005-10) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/28/2018 and 06/29/2018.

Reanalysis of the following samples were performed outside of the analytical holding time due to needing dilution: AFDV-136 (280-111005-3), AFDV-137 (280-111005-4), AFDV-102 (280-111005-5) and AFDV-135 (280-111005-6).

Samples AFDV-136 (280-111005-3)[200X], AFDV-136 (280-111005-3)[2000X], AFDV-137 (280-111005-4)[40X], AFDV-137 (280-111005-4)[400X], AFDV-102 (280-111005-5)[4X], AFDV-135 (280-111005-6)[800X] and AFDV-135 (280-111005-6)[8000X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Methylene Chloride was detected in method blank MB 280-420342/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Methylene Chloride was detected in method blank MB 280-420464/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

cis-1,2-Dichloroethene failed the recovery criteria low for the MS/MSD of sample AFDV-136 (280-111005-3) in batch 280-420464. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**ANIONS (28 DAYS)**

Samples AFDV-122 (280-111005-1), AFDV-112 (280-111005-2), AFDV-136 (280-111005-3), AFDV-137 (280-111005-4), AFDV-102 (280-111005-5), AFDV-135 (280-111005-6) and AFDV-103 (280-111005-7) were analyzed for anions (28 days) in accordance with EPA Method 300.0. The samples were analyzed on 07/12/2018.

Chloride was detected in method blank MB 280-421778/15 at a level that was above the method detection limit but below the reporting



limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Samples AFDV-122 (280-111005-1)[50X], AFDV-112 (280-111005-2)[50X], AFDV-135 (280-111005-6)[5X] and AFDV-103 (280-111005-7)[10X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL ORGANIC CARBON**

Samples AFDV-136 (280-111005-3), AFDV-137 (280-111005-4), AFDV-102 (280-111005-5) and AFDV-135 (280-111005-6) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 07/06/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Client Sample ID: AFDV-122

## Lab Sample ID: 280-111005-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	270	B	150	13	mg/L	50		300.0	Total/NA

## Client Sample ID: AFDV-112

## Lab Sample ID: 280-111005-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	130	J B	150	13	mg/L	50		300.0	Total/NA

## Client Sample ID: AFDV-136

## Lab Sample ID: 280-111005-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	4600		200	32	ug/L	200		8260B	Total/NA
1,1-Dichloroethane	1300		200	44	ug/L	200		8260B	Total/NA
1,1-Dichloroethene	460		200	46	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene	41000	E	200	30	ug/L	200		8260B	Total/NA
Methylene Chloride	260	J B	400	64	ug/L	200		8260B	Total/NA
Tetrachloroethene	1300		200	40	ug/L	200		8260B	Total/NA
trans-1,2-Dichloroethene	51	J	200	30	ug/L	200		8260B	Total/NA
Trichloroethene	1600		200	32	ug/L	200		8260B	Total/NA
Vinyl chloride	2500		200	20	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene - DL	42000	H	2000	300	ug/L	2000		8260B	Total/NA
Chloride	180	B	3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	6.0		1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-137

## Lab Sample ID: 280-111005-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	6800	E	40	6.4	ug/L	40		8260B	Total/NA
1,1-Dichloroethane	620		40	8.8	ug/L	40		8260B	Total/NA
1,1-Dichloroethene	460		40	9.2	ug/L	40		8260B	Total/NA
1,2-Dichloroethane	5.9	J	40	5.2	ug/L	40		8260B	Total/NA
cis-1,2-Dichloroethene	2200		40	6.0	ug/L	40		8260B	Total/NA
Methylene Chloride	24	J B	80	13	ug/L	40		8260B	Total/NA
o-Xylene	7.7	J	40	7.6	ug/L	40		8260B	Total/NA
Vinyl chloride	560		40	4.0	ug/L	40		8260B	Total/NA
Xylenes, Total	7.7	J	80	7.6	ug/L	40		8260B	Total/NA
1,1,1-Trichloroethane - DL	6300	H	400	64	ug/L	400		8260B	Total/NA
Chloride	32	B	3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	6.2		1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-102

## Lab Sample ID: 280-111005-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	0.46	J	1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	6.4		1.0	0.22	ug/L	1		8260B	Total/NA
Acetone	3.4	J	10	1.9	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	110	E	1.0	0.15	ug/L	1		8260B	Total/NA
Methylene Chloride	0.58	J B	2.0	0.32	ug/L	1		8260B	Total/NA
Tetrachloroethene	2.1		1.0	0.20	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.64	J	1.0	0.15	ug/L	1		8260B	Total/NA
Trichloroethene	5.5		1.0	0.16	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Client Sample ID: AFDV-102 (Continued)

## Lab Sample ID: 280-111005-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.35	J	1.0	0.10	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene - DL	110	H	4.0	0.60	ug/L	4		8260B	Total/NA
Chloride	12	B	3.0	0.25	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	1.4		1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-135

## Lab Sample ID: 280-111005-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	6000		800	130	ug/L	800		8260B	Total/NA
1,1-Dichloroethane	830		800	180	ug/L	800		8260B	Total/NA
1,1-Dichloroethene	830		800	180	ug/L	800		8260B	Total/NA
cis-1,2-Dichloroethene	160000	E	800	120	ug/L	800		8260B	Total/NA
Ethylbenzene	1300		800	130	ug/L	800		8260B	Total/NA
Methylene Chloride	510	J B	1600	260	ug/L	800		8260B	Total/NA
m-Xylene & p-Xylene	6700		1600	270	ug/L	800		8260B	Total/NA
o-Xylene	720	J	800	150	ug/L	800		8260B	Total/NA
Toluene	2700		800	140	ug/L	800		8260B	Total/NA
Vinyl chloride	13000		800	80	ug/L	800		8260B	Total/NA
Xylenes, Total	7400		1600	150	ug/L	800		8260B	Total/NA
cis-1,2-Dichloroethene - DL	170000	H	8000	1200	ug/L	8000		8260B	Total/NA
Chloride	280	B	15	1.3	mg/L	5		300.0	Total/NA
Total Organic Carbon - Average	23		1.0	0.16	mg/L	1		9060	Total/NA

## Client Sample ID: AFDV-103

## Lab Sample ID: 280-111005-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	69	B	30	2.5	mg/L	10		300.0	Total/NA

## Client Sample ID: AFDV-153

## Lab Sample ID: 280-111005-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	2.8	J	10	1.9	ug/L	1		8260B	Total/NA
Methylene Chloride	0.43	J B	2.0	0.32	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-152

## Lab Sample ID: 280-111005-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	2.2		1.0	0.20	ug/L	1		8260B	Total/NA
Trichloroethene	0.31	J	1.0	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-154

## Lab Sample ID: 280-111005-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	0.53	J B	2.0	0.32	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Client Sample ID: AFDV-122

Date Collected: 06/14/18 09:40

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-1

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270	B	150	13	mg/L	—		07/12/18 01:42	50

## Client Sample ID: AFDV-112

Date Collected: 06/14/18 10:50

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-2

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130	J B	150	13	mg/L	—		07/12/18 01:59	50

## Client Sample ID: AFDV-136

Date Collected: 06/14/18 11:00

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-3

Matrix: Water

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	4600		200	32	ug/L	—		06/28/18 21:16	200
1,1-Dichloroethane	1300		200	44	ug/L	—		06/28/18 21:16	200
1,1-Dichloroethene	460		200	46	ug/L	—		06/28/18 21:16	200
1,2-Dichloroethane	ND		200	26	ug/L	—		06/28/18 21:16	200
Methyl ethyl ketone (MEK)	ND		1200	400	ug/L	—		06/28/18 21:16	200
Acetone	ND		2000	380	ug/L	—		06/28/18 21:16	200
Benzene	ND		200	32	ug/L	—		06/28/18 21:16	200
Chloroethane	ND		400	82	ug/L	—		06/28/18 21:16	200
cis-1,2-Dichloroethene	41000	E	200	30	ug/L	—		06/28/18 21:16	200
Ethylbenzene	ND		200	32	ug/L	—		06/28/18 21:16	200
Methylene Chloride	260	J B	400	64	ug/L	—		06/28/18 21:16	200
m-Xylene & p-Xylene	ND		400	68	ug/L	—		06/28/18 21:16	200
o-Xylene	ND		200	38	ug/L	—		06/28/18 21:16	200
Styrene	ND		200	34	ug/L	—		06/28/18 21:16	200
Tetrachloroethene	1300		200	40	ug/L	—		06/28/18 21:16	200
Toluene	ND		200	34	ug/L	—		06/28/18 21:16	200
trans-1,2-Dichloroethene	51	J	200	30	ug/L	—		06/28/18 21:16	200
Trichloroethene	1600		200	32	ug/L	—		06/28/18 21:16	200
Vinyl chloride	2500		200	20	ug/L	—		06/28/18 21:16	200
Xylenes, Total	ND		400	38	ug/L	—		06/28/18 21:16	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 127		06/28/18 21:16	200
4-Bromofluorobenzene (Surr)	93		78 - 120		06/28/18 21:16	200
Dibromofluoromethane (Surr)	95		77 - 120		06/28/18 21:16	200
Toluene-d8 (Surr)	102		80 - 125		06/28/18 21:16	200

### Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	42000	H	2000	300	ug/L	—		06/29/18 00:30	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		06/29/18 00:30	2000
4-Bromofluorobenzene (Surr)	93		78 - 120		06/29/18 00:30	2000

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

**Client Sample ID: AFDV-136**

**Date Collected: 06/14/18 11:00**

**Date Received: 06/15/18 08:50**

**Lab Sample ID: 280-111005-3**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	95		77 - 120		06/29/18 00:30	2000
Toluene-d8 (Surr)	103		80 - 125		06/29/18 00:30	2000

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180	B	3.0	0.25	mg/L			07/12/18 02:17	1
Total Organic Carbon - Average	6.0		1.0	0.16	mg/L			07/06/18 15:30	1

**Client Sample ID: AFDV-137**

**Date Collected: 06/14/18 09:30**

**Date Received: 06/15/18 08:50**

**Lab Sample ID: 280-111005-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6800	E	40	6.4	ug/L			06/28/18 21:36	40
1,1-Dichloroethane	620		40	8.8	ug/L			06/28/18 21:36	40
1,1-Dichloroethene	460		40	9.2	ug/L			06/28/18 21:36	40
1,2-Dichloroethane	5.9	J	40	5.2	ug/L			06/28/18 21:36	40
Methyl ethyl ketone (MEK)	ND		240	80	ug/L			06/28/18 21:36	40
Acetone	ND		400	76	ug/L			06/28/18 21:36	40
Benzene	ND		40	6.4	ug/L			06/28/18 21:36	40
Chloroethane	ND		80	16	ug/L			06/28/18 21:36	40
cis-1,2-Dichloroethene	2200		40	6.0	ug/L			06/28/18 21:36	40
Ethylbenzene	ND		40	6.4	ug/L			06/28/18 21:36	40
Methylene Chloride	24	J B	80	13	ug/L			06/28/18 21:36	40
m-Xylene & p-Xylene	ND		80	14	ug/L			06/28/18 21:36	40
o-Xylene	7.7	J	40	7.6	ug/L			06/28/18 21:36	40
Styrene	ND		40	6.8	ug/L			06/28/18 21:36	40
Tetrachloroethene	ND		40	8.0	ug/L			06/28/18 21:36	40
Toluene	ND		40	6.8	ug/L			06/28/18 21:36	40
trans-1,2-Dichloroethene	ND		40	6.0	ug/L			06/28/18 21:36	40
Trichloroethene	ND		40	6.4	ug/L			06/28/18 21:36	40
Vinyl chloride	560		40	4.0	ug/L			06/28/18 21:36	40
Xylenes, Total	7.7	J	80	7.6	ug/L			06/28/18 21:36	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 127		06/28/18 21:36	40
4-Bromofluorobenzene (Surr)	92		78 - 120		06/28/18 21:36	40
Dibromofluoromethane (Surr)	91		77 - 120		06/28/18 21:36	40
Toluene-d8 (Surr)	103		80 - 125		06/28/18 21:36	40

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6300	H	400	64	ug/L			06/29/18 00:49	400

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		06/29/18 00:49	400
4-Bromofluorobenzene (Surr)	95		78 - 120		06/29/18 00:49	400
Dibromofluoromethane (Surr)	97		77 - 120		06/29/18 00:49	400
Toluene-d8 (Surr)	107		80 - 125		06/29/18 00:49	400

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

**Client Sample ID: AFDV-137**

**Lab Sample ID: 280-111005-4**

**Date Collected: 06/14/18 09:30**

**Matrix: Water**

**Date Received: 06/15/18 08:50**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	32	B	3.0	0.25	mg/L			07/12/18 02:34	1
Total Organic Carbon - Average	6.2		1.0	0.16	mg/L			07/06/18 14:42	1

**Client Sample ID: AFDV-102**

**Lab Sample ID: 280-111005-5**

**Date Collected: 06/14/18 09:30**

**Matrix: Water**

**Date Received: 06/15/18 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	0.46	J	1.0	0.16	ug/L			06/28/18 21:55	1
1,1-Dichloroethane	6.4		1.0	0.22	ug/L			06/28/18 21:55	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/28/18 21:55	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/28/18 21:55	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/28/18 21:55	1
Acetone	3.4	J	10	1.9	ug/L			06/28/18 21:55	1
Benzene	ND		1.0	0.16	ug/L			06/28/18 21:55	1
Chloroethane	ND		2.0	0.41	ug/L			06/28/18 21:55	1
cis-1,2-Dichloroethene	110	E	1.0	0.15	ug/L			06/28/18 21:55	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/28/18 21:55	1
Methylene Chloride	0.58	J B	2.0	0.32	ug/L			06/28/18 21:55	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/28/18 21:55	1
o-Xylene	ND		1.0	0.19	ug/L			06/28/18 21:55	1
Styrene	ND		1.0	0.17	ug/L			06/28/18 21:55	1
Tetrachloroethene	2.1		1.0	0.20	ug/L			06/28/18 21:55	1
Toluene	ND		1.0	0.17	ug/L			06/28/18 21:55	1
trans-1,2-Dichloroethene	0.64	J	1.0	0.15	ug/L			06/28/18 21:55	1
Trichloroethene	5.5		1.0	0.16	ug/L			06/28/18 21:55	1
Vinyl chloride	0.35	J	1.0	0.10	ug/L			06/28/18 21:55	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/28/18 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		06/28/18 21:55	1
4-Bromofluorobenzene (Surr)	90		78 - 120		06/28/18 21:55	1
Dibromofluoromethane (Surr)	99		77 - 120		06/28/18 21:55	1
Toluene-d8 (Surr)	98		80 - 125		06/28/18 21:55	1

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	110	H	4.0	0.60	ug/L			06/29/18 01:09	4

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 127		06/29/18 01:09	4
4-Bromofluorobenzene (Surr)	92		78 - 120		06/29/18 01:09	4
Dibromofluoromethane (Surr)	99		77 - 120		06/29/18 01:09	4
Toluene-d8 (Surr)	107		80 - 125		06/29/18 01:09	4

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12	B	3.0	0.25	mg/L			07/12/18 02:52	1
Total Organic Carbon - Average	1.4		1.0	0.16	mg/L			07/06/18 14:22	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

**Client Sample ID: AFDV-135**

**Lab Sample ID: 280-111005-6**

**Date Collected: 06/14/18 11:45**

**Matrix: Water**

**Date Received: 06/15/18 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6000		800	130	ug/L			06/28/18 22:14	800
1,1-Dichloroethane	830		800	180	ug/L			06/28/18 22:14	800
1,1-Dichloroethene	830		800	180	ug/L			06/28/18 22:14	800
1,2-Dichloroethane	ND		800	100	ug/L			06/28/18 22:14	800
Methyl ethyl ketone (MEK)	ND		4800	1600	ug/L			06/28/18 22:14	800
Acetone	ND		8000	1500	ug/L			06/28/18 22:14	800
Benzene	ND		800	130	ug/L			06/28/18 22:14	800
Chloroethane	ND		1600	330	ug/L			06/28/18 22:14	800
cis-1,2-Dichloroethene	160000	E	800	120	ug/L			06/28/18 22:14	800
Ethylbenzene	1300		800	130	ug/L			06/28/18 22:14	800
Methylene Chloride	510	J B	1600	260	ug/L			06/28/18 22:14	800
m-Xylene & p-Xylene	6700		1600	270	ug/L			06/28/18 22:14	800
o-Xylene	720	J	800	150	ug/L			06/28/18 22:14	800
Styrene	ND		800	140	ug/L			06/28/18 22:14	800
Tetrachloroethene	ND		800	160	ug/L			06/28/18 22:14	800
Toluene	2700		800	140	ug/L			06/28/18 22:14	800
trans-1,2-Dichloroethene	ND		800	120	ug/L			06/28/18 22:14	800
Trichloroethene	ND		800	130	ug/L			06/28/18 22:14	800
Vinyl chloride	13000		800	80	ug/L			06/28/18 22:14	800
Xylenes, Total	7400		1600	150	ug/L			06/28/18 22:14	800

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		06/28/18 22:14	800
4-Bromofluorobenzene (Surr)	96		78 - 120		06/28/18 22:14	800
Dibromofluoromethane (Surr)	97		77 - 120		06/28/18 22:14	800
Toluene-d8 (Surr)	94		80 - 125		06/28/18 22:14	800

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	170000	H	8000	1200	ug/L			06/29/18 01:28	8000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		06/29/18 01:28	8000
4-Bromofluorobenzene (Surr)	93		78 - 120		06/29/18 01:28	8000
Dibromofluoromethane (Surr)	99		77 - 120		06/29/18 01:28	8000
Toluene-d8 (Surr)	103		80 - 125		06/29/18 01:28	8000

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	280	B	15	1.3	mg/L			07/12/18 03:09	5
Total Organic Carbon - Average	23		1.0	0.16	mg/L			07/06/18 14:06	1

**Client Sample ID: AFDV-103**

**Lab Sample ID: 280-111005-7**

**Date Collected: 06/14/18 10:50**

**Matrix: Water**

**Date Received: 06/15/18 08:50**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	69	B	30	2.5	mg/L			07/12/18 03:26	10

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

**Client Sample ID: AFDV-153**

**Lab Sample ID: 280-111005-8**

**Date Collected: 06/14/18 12:03**

**Matrix: Water**

**Date Received: 06/15/18 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/28/18 20:38	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/28/18 20:38	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/28/18 20:38	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/28/18 20:38	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/28/18 20:38	1
Acetone	2.8	J	10	1.9	ug/L			06/28/18 20:38	1
Benzene	ND		1.0	0.16	ug/L			06/28/18 20:38	1
Chloroethane	ND		2.0	0.41	ug/L			06/28/18 20:38	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 20:38	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/28/18 20:38	1
Methylene Chloride	0.43	J B	2.0	0.32	ug/L			06/28/18 20:38	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/28/18 20:38	1
o-Xylene	ND		1.0	0.19	ug/L			06/28/18 20:38	1
Styrene	ND		1.0	0.17	ug/L			06/28/18 20:38	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/28/18 20:38	1
Toluene	ND		1.0	0.17	ug/L			06/28/18 20:38	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 20:38	1
Trichloroethene	ND		1.0	0.16	ug/L			06/28/18 20:38	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/28/18 20:38	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/28/18 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 127		06/28/18 20:38	1
4-Bromofluorobenzene (Surr)	92		78 - 120		06/28/18 20:38	1
Dibromofluoromethane (Surr)	87		77 - 120		06/28/18 20:38	1
Toluene-d8 (Surr)	108		80 - 125		06/28/18 20:38	1

**Client Sample ID: AFDV-152**

**Lab Sample ID: 280-111005-9**

**Date Collected: 06/14/18 12:02**

**Matrix: Water**

**Date Received: 06/15/18 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.16	ug/L			06/28/18 22:33	1
2-Butanone (MEK)	ND		6.0	2.0	ug/L			06/28/18 22:33	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			06/28/18 22:33	1
Chlorobenzene	ND		1.0	0.17	ug/L			06/28/18 22:33	1
Chloroform	ND		1.0	0.16	ug/L			06/28/18 22:33	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/28/18 22:33	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/28/18 22:33	1
Tetrachloroethene	2.2		1.0	0.20	ug/L			06/28/18 22:33	1
Trichloroethene	0.31	J	1.0	0.16	ug/L			06/28/18 22:33	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/28/18 22:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127		06/28/18 22:33	1
Toluene-d8 (Surr)	104		80 - 125		06/28/18 22:33	1
4-Bromofluorobenzene (Surr)	96		78 - 120		06/28/18 22:33	1
Dibromofluoromethane (Surr)	100		77 - 120		06/28/18 22:33	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

**Client Sample ID: AFDV-154**

**Lab Sample ID: 280-111005-10**

**Date Collected: 06/14/18 12:04**

**Matrix: Water**

**Date Received: 06/15/18 08:50**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/28/18 12:34	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/28/18 12:34	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/28/18 12:34	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/28/18 12:34	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/28/18 12:34	1
Acetone	ND		10	1.9	ug/L			06/28/18 12:34	1
Benzene	ND		1.0	0.16	ug/L			06/28/18 12:34	1
Chloroethane	ND		2.0	0.41	ug/L			06/28/18 12:34	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 12:34	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/28/18 12:34	1
<b>Methylene Chloride</b>	<b>0.53</b>	<b>J B</b>	2.0	0.32	ug/L			06/28/18 12:34	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/28/18 12:34	1
o-Xylene	ND		1.0	0.19	ug/L			06/28/18 12:34	1
Styrene	ND		1.0	0.17	ug/L			06/28/18 12:34	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/28/18 12:34	1
Toluene	ND		1.0	0.17	ug/L			06/28/18 12:34	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 12:34	1
Trichloroethene	ND		1.0	0.16	ug/L			06/28/18 12:34	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/28/18 12:34	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/28/18 12:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 127		06/28/18 12:34	1
4-Bromofluorobenzene (Surr)	85		78 - 120		06/28/18 12:34	1
Dibromofluoromethane (Surr)	102		77 - 120		06/28/18 12:34	1
Toluene-d8 (Surr)	92		80 - 125		06/28/18 12:34	1



## Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	RL	MDL	Units	Method
1,1,1-Trichloroethane	1.0	0.16	ug/L	8260B
1,1-Dichloroethane	1.0	0.22	ug/L	8260B
1,1-Dichloroethene	1.0	0.23	ug/L	8260B
1,2-Dichloroethane	1.0	0.13	ug/L	8260B
2-Butanone (MEK)	6.0	2.0	ug/L	8260B
Acetone	10	1.9	ug/L	8260B
Benzene	1.0	0.16	ug/L	8260B
Carbon tetrachloride	1.0	0.19	ug/L	8260B
Chlorobenzene	1.0	0.17	ug/L	8260B
Chloroethane	2.0	0.41	ug/L	8260B
Chloroform	1.0	0.16	ug/L	8260B
cis-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Ethylbenzene	1.0	0.16	ug/L	8260B
Methyl ethyl ketone (MEK)	6.0	2.0	ug/L	8260B
Methylene Chloride	2.0	0.32	ug/L	8260B
m-Xylene & p-Xylene	2.0	0.34	ug/L	8260B
o-Xylene	1.0	0.19	ug/L	8260B
Styrene	1.0	0.17	ug/L	8260B
Tetrachloroethene	1.0	0.20	ug/L	8260B
Toluene	1.0	0.17	ug/L	8260B
trans-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Trichloroethene	1.0	0.16	ug/L	8260B
Vinyl chloride	1.0	0.10	ug/L	8260B
Xylenes, Total	2.0	0.19	ug/L	8260B

### General Chemistry

Analyte	RL	MDL	Units	Method
Chloride	3.0	0.25	mg/L	300.0
Total Organic Carbon - Average	1.0	0.16	mg/L	9060



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
280-111005-3	AFDV-136	93	93	95	102
280-111005-3 - DL	AFDV-136	95	93	95	103
280-111005-3 MS	AFDV-136	88	87	89	98
280-111005-3 MSD	AFDV-136	89	88	90	99
280-111005-4	AFDV-137	92	92	91	103
280-111005-4 - DL	AFDV-137	98	95	97	107
280-111005-5	AFDV-102	96	90	99	98
280-111005-5 - DL	AFDV-102	97	92	99	107
280-111005-6	AFDV-135	96	96	97	94
280-111005-6 - DL	AFDV-135	96	93	99	103
280-111005-8	AFDV-153	82	92	87	108
280-111005-9	AFDV-152	100	96	100	104
280-111005-10	AFDV-154	101	85	102	92
280-111018-E-5 MS	Matrix Spike	117	88	109	98
280-111018-E-5 MSD	Matrix Spike Duplicate	101	82	98	89
LCS 280-420342/4	Lab Control Sample	101	89	102	96
LCS 280-420464/4	Lab Control Sample	92	87	88	98
MB 280-420342/6	Method Blank	95	86	97	92
MB 280-420464/6	Method Blank	100	108	98	95

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-420342/6

Matrix: Water

Analysis Batch: 420342

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/28/18 10:30	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/28/18 10:30	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/28/18 10:30	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/28/18 10:30	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/28/18 10:30	1
Acetone	ND		10	1.9	ug/L			06/28/18 10:30	1
Benzene	ND		1.0	0.16	ug/L			06/28/18 10:30	1
Chloroethane	ND		2.0	0.41	ug/L			06/28/18 10:30	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 10:30	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/28/18 10:30	1
Methylene Chloride	0.429	J	2.0	0.32	ug/L			06/28/18 10:30	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/28/18 10:30	1
o-Xylene	ND		1.0	0.19	ug/L			06/28/18 10:30	1
Styrene	ND		1.0	0.17	ug/L			06/28/18 10:30	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/28/18 10:30	1
Toluene	ND		1.0	0.17	ug/L			06/28/18 10:30	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 10:30	1
Trichloroethene	ND		1.0	0.16	ug/L			06/28/18 10:30	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/28/18 10:30	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/28/18 10:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127		06/28/18 10:30	1
4-Bromofluorobenzene (Surr)	86		78 - 120		06/28/18 10:30	1
Dibromofluoromethane (Surr)	97		77 - 120		06/28/18 10:30	1
Toluene-d8 (Surr)	92		80 - 125		06/28/18 10:30	1

Lab Sample ID: LCS 280-420342/4

Matrix: Water

Analysis Batch: 420342

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.60		ug/L		112	65 - 135
1,1-Dichloroethane	5.00	4.62		ug/L		92	65 - 135
1,2-Dichloroethane	5.00	5.70		ug/L		114	65 - 135
Methyl ethyl ketone (MEK)	20.0	19.3		ug/L		96	44 - 177
1,1-Dichloroethene	5.00	4.83		ug/L		97	65 - 136
Acetone	20.0	16.2		ug/L		81	39 - 156
Benzene	5.00	4.74		ug/L		95	65 - 135
Chloroethane	5.00	4.67		ug/L		93	46 - 136
cis-1,2-Dichloroethene	5.00	4.91		ug/L		98	65 - 135
Ethylbenzene	5.00	4.48		ug/L		90	65 - 135
Methylene Chloride	5.00	5.00		ug/L		100	54 - 141
m-Xylene & p-Xylene	5.00	4.39		ug/L		88	65 - 135
o-Xylene	5.00	4.44		ug/L		89	65 - 135
Styrene	5.00	4.20		ug/L		84	65 - 135
Tetrachloroethene	5.00	5.10		ug/L		102	65 - 135
Toluene	5.00	5.00		ug/L		100	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-420342/4

Matrix: Water

Analysis Batch: 420342

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	4.96		ug/L		99	65 - 135
Trichloroethene	5.00	5.34		ug/L		107	65 - 135
Vinyl chloride	5.00	4.33		ug/L		87	40 - 137
Xylenes, Total	10.0	8.83		ug/L		88	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 127
4-Bromofluorobenzene (Surr)	89		78 - 120
Dibromofluoromethane (Surr)	102		77 - 120
Toluene-d8 (Surr)	96		80 - 125

Lab Sample ID: 280-111018-E-5 MS

Matrix: Water

Analysis Batch: 420342

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	5.69		ug/L		114	65 - 135
1,1-Dichloroethane	ND		5.00	4.72		ug/L		94	65 - 135
1,2-Dichloroethane	ND		5.00	6.12		ug/L		122	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	19.4		ug/L		97	44 - 177
1,1-Dichloroethene	ND		5.00	4.79		ug/L		96	65 - 136
Acetone	ND		20.0	20.9		ug/L		104	39 - 156
Benzene	ND		5.00	4.67		ug/L		93	65 - 135
Chloroethane	ND		5.00	4.38		ug/L		88	46 - 136
cis-1,2-Dichloroethene	3.6		5.00	8.19		ug/L		91	65 - 135
Ethylbenzene	ND		5.00	4.26		ug/L		85	65 - 135
Methylene Chloride	0.42	J B	5.00	5.20		ug/L		96	54 - 141
m-Xylene & p-Xylene	ND		5.00	4.20		ug/L		84	65 - 135
o-Xylene	ND		5.00	4.23		ug/L		85	65 - 135
Styrene	ND		5.00	4.09		ug/L		82	65 - 135
Tetrachloroethene	ND		5.00	4.70		ug/L		94	65 - 135
Toluene	ND		5.00	4.84		ug/L		97	65 - 135
trans-1,2-Dichloroethene	ND		5.00	4.92		ug/L		98	65 - 135
Trichloroethene	0.26	J	5.00	5.28		ug/L		100	65 - 135
Vinyl chloride	ND		5.00	4.11		ug/L		82	40 - 137
Xylenes, Total	ND		10.0	8.43		ug/L		84	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	117		70 - 127
4-Bromofluorobenzene (Surr)	88		78 - 120
Dibromofluoromethane (Surr)	109		77 - 120
Toluene-d8 (Surr)	98		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111018-E-5 MSD

Matrix: Water

Analysis Batch: 420342

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	5.02		ug/L		100	65 - 135	12	20
1,1-Dichloroethane	ND		5.00	4.40		ug/L		88	65 - 135	7	21
1,2-Dichloroethane	ND		5.00	5.74		ug/L		115	65 - 135	6	20
Methyl ethyl ketone (MEK)	ND		20.0	19.1		ug/L		95	44 - 177	1	32
1,1-Dichloroethene	ND		5.00	4.09		ug/L		82	65 - 136	16	20
Acetone	ND		20.0	19.6		ug/L		98	39 - 156	6	23
Benzene	ND		5.00	4.41		ug/L		88	65 - 135	6	20
Chloroethane	ND		5.00	4.22		ug/L		84	46 - 136	4	25
cis-1,2-Dichloroethene	3.6		5.00	7.71		ug/L		82	65 - 135	6	20
Ethylbenzene	ND		5.00	4.06		ug/L		81	65 - 135	5	20
Methylene Chloride	0.42	J B	5.00	4.96		ug/L		91	54 - 141	5	26
m-Xylene & p-Xylene	ND		5.00	3.99		ug/L		80	65 - 135	5	20
o-Xylene	ND		5.00	4.00		ug/L		80	65 - 135	6	20
Styrene	ND		5.00	3.84		ug/L		77	65 - 135	6	26
Tetrachloroethene	ND		5.00	4.35		ug/L		87	65 - 135	8	20
Toluene	ND		5.00	4.59		ug/L		92	65 - 135	5	20
trans-1,2-Dichloroethene	ND		5.00	4.44		ug/L		89	65 - 135	10	24
Trichloroethene	0.26	J	5.00	4.90		ug/L		93	65 - 135	8	20
Vinyl chloride	ND		5.00	3.76		ug/L		75	40 - 137	9	24
Xylenes, Total	ND		10.0	7.99		ug/L		80	65 - 135	5	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		70 - 127								
4-Bromofluorobenzene (Surr)	82		78 - 120								
Dibromofluoromethane (Surr)	98		77 - 120								
Toluene-d8 (Surr)	89		80 - 125								

Lab Sample ID: MB 280-420464/6

Matrix: Water

Analysis Batch: 420464

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			06/28/18 20:12	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			06/28/18 20:12	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			06/28/18 20:12	1
Chlorobenzene	ND		1.0	0.17	ug/L			06/28/18 20:12	1
Chloroform	ND		1.0	0.16	ug/L			06/28/18 20:12	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			06/28/18 20:12	1
2-Butanone (MEK)	ND		6.0	2.0	ug/L			06/28/18 20:12	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			06/28/18 20:12	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			06/28/18 20:12	1
Acetone	ND		10	1.9	ug/L			06/28/18 20:12	1
Benzene	ND		1.0	0.16	ug/L			06/28/18 20:12	1
Chloroethane	ND		2.0	0.41	ug/L			06/28/18 20:12	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 20:12	1
Ethylbenzene	ND		1.0	0.16	ug/L			06/28/18 20:12	1
Methylene Chloride	0.948	J	2.0	0.32	ug/L			06/28/18 20:12	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			06/28/18 20:12	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-420464/6

Matrix: Water

Analysis Batch: 420464

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.0	0.19	ug/L			06/28/18 20:12	1
Styrene	ND		1.0	0.17	ug/L			06/28/18 20:12	1
Tetrachloroethene	ND		1.0	0.20	ug/L			06/28/18 20:12	1
Toluene	ND		1.0	0.17	ug/L			06/28/18 20:12	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			06/28/18 20:12	1
Trichloroethene	ND		1.0	0.16	ug/L			06/28/18 20:12	1
Vinyl chloride	ND		1.0	0.10	ug/L			06/28/18 20:12	1
Xylenes, Total	ND		2.0	0.19	ug/L			06/28/18 20:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127		06/28/18 20:12	1
4-Bromofluorobenzene (Surr)	108		78 - 120		06/28/18 20:12	1
Dibromofluoromethane (Surr)	98		77 - 120		06/28/18 20:12	1
Toluene-d8 (Surr)	95		80 - 125		06/28/18 20:12	1

Lab Sample ID: LCS 280-420464/4

Matrix: Water

Analysis Batch: 420464

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.08		ug/L		102	65 - 135
1,1-Dichloroethane	5.00	5.15		ug/L		103	65 - 135
Carbon tetrachloride	5.00	5.13		ug/L		103	65 - 135
Chlorobenzene	5.00	5.26		ug/L		105	65 - 135
Chloroform	5.00	5.10		ug/L		102	65 - 135
1,2-Dichloroethane	5.00	4.98		ug/L		100	65 - 135
2-Butanone (MEK)	20.0	15.5		ug/L		77	44 - 177
Methyl ethyl ketone (MEK)	20.0	15.5		ug/L		77	44 - 177
1,1-Dichloroethene	5.00	4.98		ug/L		100	65 - 136
Acetone	20.0	20.9		ug/L		104	39 - 156
Benzene	5.00	5.07		ug/L		101	65 - 135
Chloroethane	5.00	4.60		ug/L		92	46 - 136
cis-1,2-Dichloroethene	5.00	4.90		ug/L		98	65 - 135
Ethylbenzene	5.00	5.37		ug/L		107	65 - 135
Methylene Chloride	5.00	5.40		ug/L		108	54 - 141
m-Xylene & p-Xylene	5.00	5.29		ug/L		106	65 - 135
o-Xylene	5.00	5.31		ug/L		106	65 - 135
Styrene	5.00	5.24		ug/L		105	65 - 135
Tetrachloroethene	5.00	5.47		ug/L		109	65 - 135
Toluene	5.00	5.38		ug/L		108	65 - 135
trans-1,2-Dichloroethene	5.00	5.24		ug/L		105	65 - 135
Trichloroethene	5.00	4.50		ug/L		90	65 - 135
Vinyl chloride	5.00	4.30		ug/L		86	40 - 137
Xylenes, Total	10.0	10.6		ug/L		106	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 127

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-420464/4

Matrix: Water

Analysis Batch: 420464

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		78 - 120
Dibromofluoromethane (Surr)	88		77 - 120
Toluene-d8 (Surr)	98		80 - 125

Lab Sample ID: 280-111005-3 MS

Matrix: Water

Analysis Batch: 420464

Client Sample ID: AFDV-136

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	4600		1000	5420	4	ug/L		81	65 - 135
1,1-Dichloroethane	1300		1000	2300		ug/L		102	65 - 135
Carbon tetrachloride	ND		1000	1090		ug/L		109	65 - 135
Chlorobenzene	ND		1000	1060		ug/L		106	65 - 135
Chloroform	ND		1000	1040		ug/L		104	65 - 135
1,2-Dichloroethane	ND		1000	1000		ug/L		100	65 - 135
2-Butanone (MEK)	ND		4000	4090		ug/L		102	44 - 177
Methyl ethyl ketone (MEK)	ND		4000	4090		ug/L		102	44 - 177
1,1-Dichloroethene	460		1000	1460		ug/L		100	65 - 136
Acetone	ND		4000	3960		ug/L		99	39 - 156
Benzene	ND		1000	1030		ug/L		103	65 - 135
Chloroethane	ND		1000	1060		ug/L		106	46 - 136
cis-1,2-Dichloroethene	41000	E	1000	38700	E 4	ug/L		-240	65 - 135
Ethylbenzene	ND		1000	1100		ug/L		110	65 - 135
Methylene Chloride	260	J B	1000	1150		ug/L		89	54 - 141
m-Xylene & p-Xylene	ND		1000	1080		ug/L		108	65 - 135
o-Xylene	ND		1000	1100		ug/L		110	65 - 135
Styrene	ND		1000	1040		ug/L		104	65 - 135
Tetrachloroethene	1300		1000	2430		ug/L		115	65 - 135
Toluene	ND		1000	1110		ug/L		111	65 - 135
trans-1,2-Dichloroethene	51	J	1000	1130		ug/L		108	65 - 135
Trichloroethene	1600		1000	2490		ug/L		92	65 - 135
Vinyl chloride	2500		1000	3220		ug/L		76	40 - 137
Xylenes, Total	ND		2000	2180		ug/L		109	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 127
4-Bromofluorobenzene (Surr)	87		78 - 120
Dibromofluoromethane (Surr)	89		77 - 120
Toluene-d8 (Surr)	98		80 - 125

Lab Sample ID: 280-111005-3 MSD

Matrix: Water

Analysis Batch: 420464

Client Sample ID: AFDV-136

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	4600		1000	5310	4	ug/L		70	65 - 135	2	20
1,1-Dichloroethane	1300		1000	2300		ug/L		101	65 - 135	0	21
Carbon tetrachloride	ND		1000	1090		ug/L		109	65 - 135	0	21

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111005-3 MSD

Matrix: Water

Analysis Batch: 420464

Client Sample ID: AFDV-136

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chlorobenzene	ND		1000	1080		ug/L		108	65 - 135	2	20
Chloroform	ND		1000	1050		ug/L		105	65 - 135	1	20
1,2-Dichloroethane	ND		1000	1020		ug/L		102	65 - 135	2	20
2-Butanone (MEK)	ND		4000	3330		ug/L		83	44 - 177	21	32
Methyl ethyl ketone (MEK)	ND		4000	3330		ug/L		83	44 - 177	21	32
1,1-Dichloroethene	460		1000	1490		ug/L		103	65 - 136	2	20
Acetone	ND		4000	3850		ug/L		96	39 - 156	3	23
Benzene	ND		1000	1040		ug/L		104	65 - 135	1	20
Chloroethane	ND		1000	991		ug/L		99	46 - 136	6	25
cis-1,2-Dichloroethene	41000	E	1000	37600	E 4	ug/L		-347	65 - 135	3	20
Ethylbenzene	ND		1000	1120		ug/L		112	65 - 135	2	20
Methylene Chloride	260	J B	1000	1160		ug/L		90	54 - 141	0	26
m-Xylene & p-Xylene	ND		1000	1090		ug/L		109	65 - 135	1	20
o-Xylene	ND		1000	1110		ug/L		111	65 - 135	1	20
Styrene	ND		1000	1060		ug/L		106	65 - 135	2	26
Tetrachloroethene	1300		1000	2430		ug/L		115	65 - 135	0	20
Toluene	ND		1000	1130		ug/L		113	65 - 135	2	20
trans-1,2-Dichloroethene	51	J	1000	1150		ug/L		110	65 - 135	2	24
Trichloroethene	1600		1000	2510		ug/L		95	65 - 135	1	20
Vinyl chloride	2500		1000	3080		ug/L		62	40 - 137	5	24
Xylenes, Total	ND		2000	2200		ug/L		110	65 - 135	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		70 - 127
4-Bromofluorobenzene (Surr)	88		78 - 120
Dibromofluoromethane (Surr)	90		77 - 120
Toluene-d8 (Surr)	99		80 - 125

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-421778/15

Matrix: Water

Analysis Batch: 421778

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.473	J	3.0	0.25	mg/L			07/11/18 17:17	1

Lab Sample ID: LCS 280-421778/13

Matrix: Water

Analysis Batch: 421778

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.4		mg/L		99	90 - 110

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-421778/14

Matrix: Water

Analysis Batch: 421778

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.4		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-421778/12

Matrix: Water

Analysis Batch: 421778

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2.50	2.34	J	mg/L		94	50 - 150		

Lab Sample ID: 280-111840-C-1 MS

Matrix: Water

Analysis Batch: 421778

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	40	B	25.0	68.0		mg/L		111	80 - 120		

Lab Sample ID: 280-111840-C-1 MSD

Matrix: Water

Analysis Batch: 421778

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	40	B	25.0	68.4		mg/L		113	80 - 120	1	20

Lab Sample ID: 280-111840-C-1 DU

Matrix: Water

Analysis Batch: 421778

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	40	B	25.0	40.2		mg/L				0	15

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-421458/4

Matrix: Water

Analysis Batch: 421458

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	0.16	mg/L			07/06/18 11:57	1

Lab Sample ID: LCS 280-421458/3

Matrix: Water

Analysis Batch: 421458

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	25.0	23.7		mg/L		95	88 - 112		



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Method: 9060 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 280-109232-C-7 MS

Matrix: Water

Analysis Batch: 421458

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Average	14		25.0	38.4		mg/L		97	88 - 112		

Lab Sample ID: 280-109232-C-7 MSD

Matrix: Water

Analysis Batch: 421458

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	14		25.0	38.7		mg/L		99	88 - 112	1	15



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## GC/MS VOA

### Analysis Batch: 420342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111005-10	AFDV-154	Total/NA	Water	8260B	
MB 280-420342/6	Method Blank	Total/NA	Water	8260B	
LCS 280-420342/4	Lab Control Sample	Total/NA	Water	8260B	
280-111018-E-5 MS	Matrix Spike	Total/NA	Water	8260B	
280-111018-E-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Analysis Batch: 420464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111005-3	AFDV-136	Total/NA	Water	8260B	
280-111005-3 - DL	AFDV-136	Total/NA	Water	8260B	
280-111005-4	AFDV-137	Total/NA	Water	8260B	
280-111005-4 - DL	AFDV-137	Total/NA	Water	8260B	
280-111005-5	AFDV-102	Total/NA	Water	8260B	
280-111005-5 - DL	AFDV-102	Total/NA	Water	8260B	
280-111005-6	AFDV-135	Total/NA	Water	8260B	
280-111005-6 - DL	AFDV-135	Total/NA	Water	8260B	
280-111005-8	AFDV-153	Total/NA	Water	8260B	
280-111005-9	AFDV-152	Total/NA	Water	8260B	
MB 280-420464/6	Method Blank	Total/NA	Water	8260B	
LCS 280-420464/4	Lab Control Sample	Total/NA	Water	8260B	
280-111005-3 MS	AFDV-136	Total/NA	Water	8260B	
280-111005-3 MSD	AFDV-136	Total/NA	Water	8260B	

## General Chemistry

### Analysis Batch: 421458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111005-3	AFDV-136	Total/NA	Water	9060	
280-111005-4	AFDV-137	Total/NA	Water	9060	
280-111005-5	AFDV-102	Total/NA	Water	9060	
280-111005-6	AFDV-135	Total/NA	Water	9060	
MB 280-421458/4	Method Blank	Total/NA	Water	9060	
LCS 280-421458/3	Lab Control Sample	Total/NA	Water	9060	
280-109232-C-7 MS	Matrix Spike	Total/NA	Water	9060	
280-109232-C-7 MSD	Matrix Spike Duplicate	Total/NA	Water	9060	

### Analysis Batch: 421778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111005-1	AFDV-122	Total/NA	Water	300.0	
280-111005-2	AFDV-112	Total/NA	Water	300.0	
280-111005-3	AFDV-136	Total/NA	Water	300.0	
280-111005-4	AFDV-137	Total/NA	Water	300.0	
280-111005-5	AFDV-102	Total/NA	Water	300.0	
280-111005-6	AFDV-135	Total/NA	Water	300.0	
280-111005-7	AFDV-103	Total/NA	Water	300.0	
MB 280-421778/15	Method Blank	Total/NA	Water	300.0	
LCS 280-421778/13	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-421778/14	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-421778/12	Lab Control Sample	Total/NA	Water	300.0	
280-111840-C-1 MS	Matrix Spike	Total/NA	Water	300.0	



## QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

### General Chemistry (Continued)

#### Analysis Batch: 421778 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111840-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
280-111840-C-1 DU	Duplicate	Total/NA	Water	300.0	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Client Sample ID: AFDV-122

Date Collected: 06/14/18 09:40

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	5 mL	5 mL	421778	07/12/18 01:42	CCJ	TAL DEN

## Client Sample ID: AFDV-112

Date Collected: 06/14/18 10:50

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		50	5 mL	5 mL	421778	07/12/18 01:59	CCJ	TAL DEN

## Client Sample ID: AFDV-136

Date Collected: 06/14/18 11:00

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	20 mL	20 mL	420464	06/28/18 21:16	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	2000	20 mL	20 mL	420464	06/29/18 00:30	JNL	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421778	07/12/18 02:17	CCJ	TAL DEN
Total/NA	Analysis	9060		1			421458	07/06/18 15:30	A1D	TAL DEN

## Client Sample ID: AFDV-137

Date Collected: 06/14/18 09:30

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		40	20 mL	20 mL	420464	06/28/18 21:36	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	400	20 mL	20 mL	420464	06/29/18 00:49	JNL	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421778	07/12/18 02:34	CCJ	TAL DEN
Total/NA	Analysis	9060		1			421458	07/06/18 14:42	A1D	TAL DEN

## Client Sample ID: AFDV-102

Date Collected: 06/14/18 09:30

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420464	06/28/18 21:55	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	4	20 mL	20 mL	420464	06/29/18 01:09	JNL	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	421778	07/12/18 02:52	CCJ	TAL DEN
Total/NA	Analysis	9060		1			421458	07/06/18 14:22	A1D	TAL DEN



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Client Sample ID: AFDV-135

Date Collected: 06/14/18 11:45

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		800	20 mL	20 mL	420464	06/28/18 22:14	JNL	TAL DEN
Total/NA	Analysis	8260B	DL	8000	20 mL	20 mL	420464	06/29/18 01:28	JNL	TAL DEN
Total/NA	Analysis	300.0		5	5 mL	5 mL	421778	07/12/18 03:09	CCJ	TAL DEN
Total/NA	Analysis	9060		1			421458	07/06/18 14:06	A1D	TAL DEN

## Client Sample ID: AFDV-103

Date Collected: 06/14/18 10:50

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10	5 mL	5 mL	421778	07/12/18 03:26	CCJ	TAL DEN

## Client Sample ID: AFDV-153

Date Collected: 06/14/18 12:03

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420464	06/28/18 20:38	JNL	TAL DEN

## Client Sample ID: AFDV-152

Date Collected: 06/14/18 12:02

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420464	06/28/18 22:33	JNL	TAL DEN

## Client Sample ID: AFDV-154

Date Collected: 06/14/18 12:04

Date Received: 06/15/18 08:50

## Lab Sample ID: 280-111005-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	420342	06/28/18 12:34	DPI	TAL DEN

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

## Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Iowa	State Program	7	370	12-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,2-Dichloroethane
8260B		Water	2-Butanone (MEK)
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Carbon tetrachloride
8260B		Water	Chlorobenzene
8260B		Water	Chloroethane
8260B		Water	Chloroform
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	Ethylbenzene
8260B		Water	Methyl ethyl ketone (MEK)
8260B		Water	Methylene Chloride
8260B		Water	m-Xylene & p-Xylene
8260B		Water	o-Xylene
8260B		Water	Styrene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	Trichloroethene
8260B		Water	Vinyl chloride
8260B		Water	Xylenes, Total
9060		Water	Total Organic Carbon - Average

Oregon	NELAP	10	4025	01-08-19
--------	-------	----	------	----------

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
9060		Water	Total Organic Carbon - Average



## Method Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
9060	Organic Carbon, Total (TOC)	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.  
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Sample Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - June 2018

TestAmerica Job ID: 280-111005-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-111005-1	AFDV-122	Water	06/14/18 09:40	06/15/18 08:50
280-111005-2	AFDV-112	Water	06/14/18 10:50	06/15/18 08:50
280-111005-3	AFDV-136	Water	06/14/18 11:00	06/15/18 08:50
280-111005-4	AFDV-137	Water	06/14/18 09:30	06/15/18 08:50
280-111005-5	AFDV-102	Water	06/14/18 09:30	06/15/18 08:50
280-111005-6	AFDV-135	Water	06/14/18 11:45	06/15/18 08:50
280-111005-7	AFDV-103	Water	06/14/18 10:50	06/15/18 08:50
280-111005-8	AFDV-153	Water	06/14/18 12:03	06/15/18 08:50
280-111005-9	AFDV-152	Water	06/14/18 12:02	06/15/18 08:50
280-111005-10	AFDV-154	Water	06/14/18 12:04	06/15/18 08:50



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Analysis Batch Number: 408278Lab Sample ID: STD 280-408278/19 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 03/19/18 10:17 Lab File ID: MS9\_7350.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.96	Assign Peak	dobransky m	03/19/18 11:37



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 Analysis Batch Number: 419367Lab Sample ID: STD1 280-419367/15 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/21/18 02:08 Lab File ID: R2076.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	7.66	Assign Peak	linesj	06/21/18 18:09

Lab Sample ID: STD03 280-419367/16 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/21/18 02:28 Lab File ID: R2077.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol		Invalid Compound ID	linesj	06/21/18 18:03

Lab Sample ID: STD 280-419367/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/21/18 07:34 Lab File ID: R2085.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
n-Butanol	7.14	Shouldering	linesj	06/21/18 20:27



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
Freon_A_00009	07/03/18	04/03/18	P&T Methanol, Lot 118655	10 mL	MV-98948_00001	200 uL	1,1,1-Trifluoro-2,2-dichloroethane	40 ug/mL
							1,2-Dichloro-1,1,2,2-tetrafluoroethane	40 ug/mL
							1,2-Dichloro-1,1,2-trifluoroethane	40 ug/mL
							2-Chloro-1,1,1-Trifluoroethane	40 ug/mL
							Chlorotrifluoroethene	40 ug/mL
.MV-98948_00001	03/07/18	Absolute, Lot 090617			(Purchased Reagent)		1,1,1-Trifluoro-2,2-dichloroethane	2000 ug/mL
							1,2-Dichloro-1,1,2,2-tetrafluoroethane	2000 ug/mL
							1,2-Dichloro-1,1,2-trifluoroethane	2000 ug/mL
							2-Chloro-1,1,1-Trifluoroethane	2000 ug/mL
							Chlorotrifluoroethene	2000 ug/mL
IC CAL cl/so4_00207	07/14/18	07/07/18	Di Water, Lot na	100 mL	IC CL cal 00053	25 mL	Chloride	250 mg/L
					IC sulfatecal_00052	25 mL	Sulfate	250 mg/L
.IC CL cal 00053	03/30/19	SPEX CertiPrep, Lot 4-101CL-2X			(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00052	04/30/19	SPEX CertiPrep, Lot 4-65SO4-2X			(Purchased Reagent)		Sulfate	1000 mg/L
IC Cal low_00383	07/18/18	07/11/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
					IC FL cal_00012	5 mL	Fluoride	50 mg/L
.IC Br cal_00015	01/31/19	Ricca, Lot 4707D55			(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00012	10/31/18	Ricca, Lot 4704K15			(Purchased Reagent)		Fluoride	1000 mg/L
IC CL ICV_00014	01/31/19	ERA, Lot 190117			(Purchased Reagent)		Chloride	1000 mg/L
IC LCS 01279	07/12/18	07/11/18	Di Water, Lot 27	200 mL	IC CL cal_00053	20 mL	Chloride	100 mg/L
					(Purchased Reagent)		Chloride	1000 mg/L
.IC CL cal_00053	03/30/19	SPEX CertiPrep, Lot 4-101CL-2X			(Purchased Reagent)		Chloride	1000 mg/L
ICMS/MSD WEEK 00541	07/16/18	07/09/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00019	5 mL	Chloride	2499.92 mg/L
.IC SPK 6 ANIO_00019	08/23/18	08/23/17	Di Water, Lot NA	1000 mL	IC MS/MSD CL_00002	8.2424 g	Chloride	4999.84 mg/L
..IC MS/MSD CL_00002	01/13/21	FISHER, Lot 091363			(Purchased Reagent)		Chloride	0.6066 g/g
MV-2cleve+AVA_00035	05/31/18	05/07/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00020	202.5 uL	Acrolein	399.938 ug/mL
					MV-569723_00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL
					MV-569724_00014	160 uL	Vinyl acetate	80 ug/mL
					.MV-568720_00020	05/31/18	RESTEK, Lot A0132611	
.MV-569723_00003	01/31/20	RESTEK, Lot A0123891			(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00014	07/31/18	RESTEK, Lot A0134268			(Purchased Reagent)		Vinyl acetate	5000 ug/mL
MV-2cleve+AVA_00036	08/31/18	06/01/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00021	202.5 uL	Acrolein	399.938 ug/mL
					MV-569723_00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL
					MV-569724_00015	160 uL	Vinyl acetate	80 ug/mL
					.MV-568720_00021	08/31/18	RESTEK, Lot A0135693	
.MV-569723_00003	01/31/20	RESTEK, Lot A0123891			(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00015	08/31/18	RESTEK, Lot A0135506			(Purchased Reagent)		Vinyl acetate	5000 ug/mL
MV-568718-D_00008	03/31/21	RESTEK, Lot A0118105			(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
MV-568718-D_00014	05/31/22		RESTEK, Lot A0127975		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
MV-ARCH SS A_00092	09/14/18	03/14/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-ARCH SS A_00095	10/18/18	04/18/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-ARCH SS A_00098	12/13/18	06/13/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-ARCH SS A_00099	12/13/18	06/22/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MV-BFB_00025							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
<b>MV-BFB_00026</b>							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
<b>MV-Gas/Ket_A_00073</b>	11/07/18	05/07/18	P&T Methanol, Lot 177891	10 mL	MV-569721_00004	128 uL	2-Butanone (MEK)	160 ug/mL
							2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
					MV-569722_00006	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890		(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
							2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MV-Gas/Ket A_00074	12/01/18	06/01/18	P&T Methanol, Lot 178178	10 mL	MV-569721_00006	128 uL	2-Butanone (MEK)	160 ug/mL
							2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
					MV-569722_00008	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
MV-569727_00006	640 uL	Vinyl chloride	40 ug/mL					
		Cyclohexanone	1600 ug/mL					
.MV-569721_00006	10/31/20	RESTEK, Lot A0131486			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
						2-Hexanone	12500 ug/mL	
						4-Methyl-2-pentanone (MIBK)	12500 ug/mL	
						Acetone	12500 ug/mL	
.MV-569722_00008	10/31/20	RESTEK, Lot A0131502			(Purchased Reagent)		Bromomethane	2500 ug/mL
						Chloroethane	2500 ug/mL	
						Chloromethane	2500 ug/mL	
						Dichlorodifluoromethane	2500 ug/mL	
						Dichlorofluoromethane	2500 ug/mL	
						Trichlorofluoromethane	2500 ug/mL	
						Vinyl chloride	2500 ug/mL	
.MV-569727_00006	03/31/19	RESTEK, Lot A0118487			(Purchased Reagent)		Cyclohexanone	25000 ug/mL
MV-Gas/Ket B_00042	10/21/18	04/21/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	2-Butanone (MEK)	160 ug/mL
					MV-569722.sec_00004	160 uL	Acetone	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20	RESTEK, Lot A0113880			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
						Acetone	12500 ug/mL	
.MV-569722.sec_00004	01/31/20	RESTEK, Lot A0124116			(Purchased Reagent)		Chloroethane	2500 ug/mL
						Vinyl chloride	2500 ug/mL	
MV-Gas/Ket B_00043	11/30/18	05/28/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	2-Butanone (MEK)	160 ug/mL
					MV-569722.sec_00004	160 uL	Acetone	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20	RESTEK, Lot A0113880			(Purchased Reagent)		2-Butanone (MEK)	12500 ug/mL
						Acetone	12500 ug/mL	
.MV-569722.sec_00004	01/31/20	RESTEK, Lot A0124116			(Purchased Reagent)		Chloroethane	2500 ug/mL
						Vinyl chloride	2500 ug/mL	
MV-Main A_00036	06/30/18	04/27/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1,2-Tetrachloroethane	40 ug/mL
							1,1,1-Trichloroethane	40 ug/mL
							1,1,2,2-Tetrachloroethane	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1,2-Trichloro-1,2,2-trifluoroethane	40 ug/mL
							1,1,2-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,1-Dichloropropene	40 ug/mL
							1,2,3-Trichlorobenzene	40 ug/mL
							1,2,3-Trichloropropane	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2,4-Trimethylbenzene	40 ug/mL
							1,2-Dibromo-3-Chloropropane	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							1,2-Dichloropropane	40 ug/mL
							1,3,5-Trimethylbenzene	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dichloropropane	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	800 ug/mL
							2,2-Dichloropropane	40 ug/mL
							2-Chlorotoluene	40 ug/mL
							2-Methyl-2-propanol	400 ug/mL
							3-Chloro-1-propene	40 ug/mL
							4-Chlorotoluene	40 ug/mL
							4-Isopropyltoluene	40 ug/mL
							Acrylonitrile	400 ug/mL
							Benzene	40 ug/mL
							Bromobenzene	40 ug/mL
							Bromoform	40 ug/mL
							Carbon disulfide	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chlorobromomethane	40 ug/mL
							Chlorodibromomethane	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							cis-1,3-Dichloropropene	40 ug/mL
							Cyclohexane	40 ug/mL
							Dibromomethane	40 ug/mL
							Dichlorobromomethane	40 ug/mL
							Ethyl ether	40 ug/mL
							Ethyl methacrylate	40 ug/mL
							Ethylbenzene	40 ug/mL
							Ethylene Dibromide	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexane	40 ug/mL
							Iodomethane	40 ug/mL
							Isobutyl alcohol	1000 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isopropylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methyl acetate	80 ug/mL
							Methyl tert-butyl ether	40 ug/mL
							Methylcyclohexane	40 ug/mL
							Methylene Chloride	40 ug/mL
							n-Butylbenzene	40 ug/mL
							n-Heptane	40 ug/mL
							N-Propylbenzene	40 ug/mL
							Naphthalene	40 ug/mL
							o-Xylene	40 ug/mL
							sec-Butylbenzene	40 ug/mL
							Styrene	40 ug/mL
							tert-Butylbenzene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Tetrahydrofuran	80 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							trans-1,3-Dichloropropene	40 ug/mL
							trans-1,4-Dichloro-2-butene	40 ug/mL
					Trichloroethene	40 ug/mL		
					MV-CUS17739_00002	800 uL	1-Chlorohexane	40 ug/mL
							2-Pentanone	160 ug/mL
							sec-Butyl Alcohol	1200 ug/mL
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
						1,1,1-Trichloroethane	2500 ug/mL	
						1,1,2,2-Tetrachloroethane	2500 ug/mL	
						1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL	
						1,1,2-Trichloroethane	2500 ug/mL	
						1,1-Dichloroethane	2500 ug/mL	
						1,1-Dichloroethene	2500 ug/mL	
						1,1-Dichloropropene	2500 ug/mL	
						1,2,3-Trichlorobenzene	2500 ug/mL	
						1,2,3-Trichloropropane	2500 ug/mL	
						1,2,4-Trichlorobenzene	2500 ug/mL	
						1,2,4-Trimethylbenzene	2500 ug/mL	
						1,2-Dibromo-3-Chloropropane	2500 ug/mL	
						1,2-Dichlorobenzene	2500 ug/mL	
						1,2-Dichloroethane	2500 ug/mL	
						1,2-Dichloropropane	2500 ug/mL	
						1,3,5-Trimethylbenzene	2500 ug/mL	
						1,3-Dichlorobenzene	2500 ug/mL	
						1,3-Dichloropropane	2500 ug/mL	
						1,4-Dichlorobenzene	2500 ug/mL	
						1,4-Dioxane	50000 ug/mL	
						2,2-Dichloropropane	2500 ug/mL	
						2-Chlorotoluene	2500 ug/mL	



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-CUS17739_00002	07/31/19		Ultra, Lot CR-2819		(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
<b>MV-Main A_00036</b>	06/30/18	04/27/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	Xylenes, Total	80 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		Xylenes, Total	5000 ug/mL
<b>MV-Main B_00021</b>	07/31/18	05/14/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	1,1,1-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							Ethylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methylene Chloride	40 ug/mL
							o-Xylene	40 ug/mL
							Styrene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
							Xylenes, Total	80 ug/mL
.MV-569720.sec_00002	07/31/18		RESTEK, Lot A0120604		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
<b>MV-Supp A_00029</b>	06/30/18	03/04/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00003	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00003	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00001	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-571994_00001	240 uL	Ethanol	2400 ug/mL
					mv-VO-TAOH-5_00004	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
							Ethylene oxide	4000 ug/mL
							Propene oxide	4000 ug/mL
							Tetrahydrothiophene	80 ug/mL
.mv-570808_00003	06/30/18		Restek, Lot A0123685		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00003	06/30/18		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00001	12/31/18		RESTEK, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00001	06/30/20		RESTEK, Lot A0128797		(Purchased Reagent)		Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00004	08/19/18		SPEX, Lot TS180220004		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL
MV-Supp A_00030	08/19/18	05/12/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00004	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00004	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00001	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-VO-TAOH-5_00004	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
							Ethylene oxide	4000 ug/mL
.mv-570808_00004	05/31/19		Restek, Lot A0132816		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00004	04/30/19		Restek, Lot A0131668		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00001	12/31/18		RESTEK, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-VO-TAOH-5_00004	08/19/18		SPEX, Lot TS180220004		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
TOC ICV Std 00035	03/31/19		Ricca, Lot 1803K91		(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm
TOC LCS Std 00041	06/30/20		Ultra Scientific, Lot CS-2402		(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm



# Method 8260B

---

Volatile Organic Compounds (GC/MS)  
by Method 8260B



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low  
 GC Column (1): DB-624 (60. ID: 0.25 (mm))

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
AFDV-136	280-111005-3	95	93	102	93
AFDV-136 DL	280-111005-3 DL	95	95	103	93
AFDV-137	280-111005-4	91	92	103	92
AFDV-137 DL	280-111005-4 DL	97	98	107	95
AFDV-102	280-111005-5	99	96	98	90
AFDV-102 DL	280-111005-5 DL	99	97	107	92
AFDV-135	280-111005-6	97	96	94	96
AFDV-135 DL	280-111005-6 DL	99	96	103	93
AFDV-153	280-111005-8	87	82	108	92
AFDV-152	280-111005-9	100	100	104	96
AFDV-154	280-111005-10	102	101	92	85
	MB 280-420342/6	97	95	92	86
	MB 280-420464/6	98	100	95	108
	LCS 280-420342/4	102	101	96	89
	LCS 280-420464/4	88	92	98	87
AFDV-136 MS	280-111005-3 MS	89	88	98	87
	280-111018-E-5 MS	109	117	98	88
AFDV-136 MSD	280-111005-3 MSD	90	89	99	88
	280-111018-E-5 MSD	98	101	89	82

	<u>QC LIMITS</u>
DBFM = Dibromofluoromethane (Surr)	77-120
DCA = 1,2-Dichloroethane-d4 (Surr)	70-127
TOL = Toluene-d8 (Surr)	80-125
BFB = 4-Bromofluorobenzene (Surr)	78-120

# Column to be used to flag recovery values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_1992.D  
 Lab ID: LCS 280-420342/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.60	112	65-135	
1,1-Dichloroethane	5.00	4.62	92	65-135	
1,2-Dichloroethane	5.00	5.70	114	65-135	
Methyl ethyl ketone (MEK)	20.0	19.3	96	44-177	
1,1-Dichloroethene	5.00	4.83	97	65-136	
Acetone	20.0	16.2	81	39-156	
Benzene	5.00	4.74	95	65-135	
Chloroethane	5.00	4.67	93	46-136	
cis-1,2-Dichloroethene	5.00	4.91	98	65-135	
Ethylbenzene	5.00	4.48	90	65-135	
Methylene Chloride	5.00	5.00	100	54-141	
m-Xylene & p-Xylene	5.00	4.39	88	65-135	
o-Xylene	5.00	4.44	89	65-135	
Styrene	5.00	4.20	84	65-135	
Tetrachloroethene	5.00	5.10	102	65-135	
Toluene	5.00	5.00	100	65-135	
trans-1,2-Dichloroethene	5.00	4.96	99	65-135	
Trichloroethene	5.00	5.34	107	65-135	
Vinyl chloride	5.00	4.33	87	40-137	
Xylenes, Total	10.0	8.83	88	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: R2508.D  
 Lab ID: LCS 280-420464/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.08	102	65-135	
1,1-Dichloroethane	5.00	5.15	103	65-135	
Carbon tetrachloride	5.00	5.13	103	65-135	
Chlorobenzene	5.00	5.26	105	65-135	
Chloroform	5.00	5.10	102	65-135	
1,2-Dichloroethane	5.00	4.98	100	65-135	
2-Butanone (MEK)	20.0	15.5	77	44-177	
Methyl ethyl ketone (MEK)	20.0	15.5	77	44-177	
1,1-Dichloroethene	5.00	4.98	100	65-136	
Acetone	20.0	20.9	104	39-156	
Benzene	5.00	5.07	101	65-135	
Chloroethane	5.00	4.60	92	46-136	
cis-1,2-Dichloroethene	5.00	4.90	98	65-135	
Ethylbenzene	5.00	5.37	107	65-135	
Methylene Chloride	5.00	5.40	108	54-141	
m-Xylene & p-Xylene	5.00	5.29	106	65-135	
o-Xylene	5.00	5.31	106	65-135	
Styrene	5.00	5.24	105	65-135	
Tetrachloroethene	5.00	5.47	109	65-135	
Toluene	5.00	5.38	108	65-135	
trans-1,2-Dichloroethene	5.00	5.24	105	65-135	
Trichloroethene	5.00	4.50	90	65-135	
Vinyl chloride	5.00	4.30	86	40-137	
Xylenes, Total	10.0	10.6	106	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: R2517.D  
 Lab ID: 280-111005-3 MS Client ID: AFDV-136 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	1000	4600	5420	81	65-135	4
1,1-Dichloroethane	1000	1300	2300	102	65-135	
Carbon tetrachloride	1000	ND	1090	109	65-135	
Chlorobenzene	1000	ND	1060	106	65-135	
Chloroform	1000	ND	1040	104	65-135	
1,2-Dichloroethane	1000	ND	1000	100	65-135	
2-Butanone (MEK)	4000	ND	4090	102	44-177	
Methyl ethyl ketone (MEK)	4000	ND	4090	102	44-177	
1,1-Dichloroethene	1000	460	1460	100	65-136	
Acetone	4000	ND	3960	99	39-156	
Benzene	1000	ND	1030	103	65-135	
Chloroethane	1000	ND	1060	106	46-136	
cis-1,2-Dichloroethene	1000	41000	38700	-240	65-135	E 4
Ethylbenzene	1000	ND	1100	110	65-135	
Methylene Chloride	1000	260 J	1150	89	54-141	
m-Xylene & p-Xylene	1000	ND	1080	108	65-135	
o-Xylene	1000	ND	1100	110	65-135	
Styrene	1000	ND	1040	104	65-135	
Tetrachloroethene	1000	1300	2430	115	65-135	
Toluene	1000	ND	1110	111	65-135	
trans-1,2-Dichloroethene	1000	51 J	1130	108	65-135	
Trichloroethene	1000	1600	2490	92	65-135	
Vinyl chloride	1000	2500	3220	76	40-137	
Xylenes, Total	2000	ND	2180	109	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2004.D  
 Lab ID: 280-111018-E-5 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	5.69	114	65-135	
1,1-Dichloroethane	5.00	ND	4.72	94	65-135	
1,2-Dichloroethane	5.00	ND	6.12	122	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	19.4	97	44-177	
1,1-Dichloroethene	5.00	ND	4.79	96	65-136	
Acetone	20.0	ND	20.9	104	39-156	
Benzene	5.00	ND	4.67	93	65-135	
Chloroethane	5.00	ND	4.38	88	46-136	
cis-1,2-Dichloroethene	5.00	3.6	8.19	91	65-135	
Ethylbenzene	5.00	ND	4.26	85	65-135	
Methylene Chloride	5.00	0.42 J	5.20	96	54-141	
m-Xylene & p-Xylene	5.00	ND	4.20	84	65-135	
o-Xylene	5.00	ND	4.23	85	65-135	
Styrene	5.00	ND	4.09	82	65-135	
Tetrachloroethene	5.00	ND	4.70	94	65-135	
Toluene	5.00	ND	4.84	97	65-135	
trans-1,2-Dichloroethene	5.00	ND	4.92	98	65-135	
Trichloroethene	5.00	0.26 J	5.28	100	65-135	
Vinyl chloride	5.00	ND	4.11	82	40-137	
Xylenes, Total	10.0	ND	8.43	84	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: R2518.D  
 Lab ID: 280-111005-3 MSD Client ID: AFDV-136 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	1000	5310	70	2	20	65-135	4
1,1-Dichloroethane	1000	2300	101	0	21	65-135	
Carbon tetrachloride	1000	1090	109	0	21	65-135	
Chlorobenzene	1000	1080	108	2	20	65-135	
Chloroform	1000	1050	105	1	20	65-135	
1,2-Dichloroethane	1000	1020	102	2	20	65-135	
2-Butanone (MEK)	4000	3330	83	21	32	44-177	
Methyl ethyl ketone (MEK)	4000	3330	83	21	32	44-177	
1,1-Dichloroethene	1000	1490	103	2	20	65-136	
Acetone	4000	3850	96	3	23	39-156	
Benzene	1000	1040	104	1	20	65-135	
Chloroethane	1000	991	99	6	25	46-136	
cis-1,2-Dichloroethene	1000	37600	-347	3	20	65-135	E 4
Ethylbenzene	1000	1120	112	2	20	65-135	
Methylene Chloride	1000	1160	90	0	26	54-141	
m-Xylene & p-Xylene	1000	1090	109	1	20	65-135	
o-Xylene	1000	1110	111	1	20	65-135	
Styrene	1000	1060	106	2	26	65-135	
Tetrachloroethene	1000	2430	115	0	20	65-135	
Toluene	1000	1130	113	2	20	65-135	
trans-1,2-Dichloroethene	1000	1150	110	2	24	65-135	
Trichloroethene	1000	2510	95	1	20	65-135	
Vinyl chloride	1000	3080	62	5	24	40-137	
Xylenes, Total	2000	2200	110	1	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2006.D  
 Lab ID: 280-111018-E-5 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	5.02	100	12	20	65-135	
1,1-Dichloroethane	5.00	4.40	88	7	21	65-135	
1,2-Dichloroethane	5.00	5.74	115	6	20	65-135	
Methyl ethyl ketone (MEK)	20.0	19.1	95	1	32	44-177	
1,1-Dichloroethene	5.00	4.09	82	16	20	65-136	
Acetone	20.0	19.6	98	6	23	39-156	
Benzene	5.00	4.41	88	6	20	65-135	
Chloroethane	5.00	4.22	84	4	25	46-136	
cis-1,2-Dichloroethene	5.00	7.71	82	6	20	65-135	
Ethylbenzene	5.00	4.06	81	5	20	65-135	
Methylene Chloride	5.00	4.96	91	5	26	54-141	
m-Xylene & p-Xylene	5.00	3.99	80	5	20	65-135	
o-Xylene	5.00	4.00	80	6	20	65-135	
Styrene	5.00	3.84	77	6	26	65-135	
Tetrachloroethene	5.00	4.35	87	8	20	65-135	
Toluene	5.00	4.59	92	5	20	65-135	
trans-1,2-Dichloroethene	5.00	4.44	89	10	24	65-135	
Trichloroethene	5.00	4.90	93	8	20	65-135	
Vinyl chloride	5.00	3.76	75	9	24	40-137	
Xylenes, Total	10.0	7.99	80	5	20	65-135	

# Column to be used to flag recovery and RPD values



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_1993.D Lab Sample ID: MB 280-420342/6  
Matrix: Water Heated Purge: (Y/N) Y  
Instrument ID: VMS\_MS9 Date Analyzed: 06/28/2018 10:30  
GC Column: RTX-624 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-420342/4	MS9_1992.D	06/28/2018 10:09
AFDV-154	280-111005-10	MS9_1999.D	06/28/2018 12:34
	280-111018-E-5 MS	MS9_2004.D	06/28/2018 14:21
	280-111018-E-5 MSD	MS9_2006.D	06/28/2018 15:03



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: R2506.D Lab Sample ID: MB 280-420464/6  
 Matrix: Water Heated Purge: (Y/N) N  
 Instrument ID: VMS\_R1 Date Analyzed: 06/28/2018 20:12  
 GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
AFDV-153	280-111005-8	R2507.D	06/28/2018 20:38
	LCS 280-420464/4	R2508.D	06/28/2018 20:57
AFDV-136	280-111005-3	R2509.D	06/28/2018 21:16
AFDV-137	280-111005-4	R2510.D	06/28/2018 21:36
AFDV-102	280-111005-5	R2511.D	06/28/2018 21:55
AFDV-135	280-111005-6	R2512.D	06/28/2018 22:14
AFDV-152	280-111005-9	R2513.D	06/28/2018 22:33
AFDV-136 MS	280-111005-3 MS	R2517.D	06/28/2018 23:52
AFDV-136 MSD	280-111005-3 MSD	R2518.D	06/29/2018 00:11
AFDV-136 DL	280-111005-3 DL	R2519.D	06/29/2018 00:30
AFDV-137 DL	280-111005-4 DL	R2520.D	06/29/2018 00:49
AFDV-102 DL	280-111005-5 DL	R2521.D	06/29/2018 01:09
AFDV-135 DL	280-111005-6 DL	R2522.D	06/29/2018 01:28



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_7339.D BFB Injection Date: 03/19/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 06:37  
 Analysis Batch No.: 408278

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	17.4
75	30.0 - 60.0 % of mass 95	47.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	5.3
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	79.7
175	5.0 - 9.0 % of mass 174	6.2 (7.7) 1
176	95.0 - 101.0 % of mass 174	76.7 (96.3) 1
177	5.0 - 9.0 % of mass 176	5.5 (7.1) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD 280-408278/18	MS9_7349.D	03/19/2018	09:57
	STD 280-408278/19	MS9_7350.D	03/19/2018	10:17
	STD 280-408278/20	MS9_7351.D	03/19/2018	10:38
	ICIS 280-408278/21	MS9_7352.D	03/19/2018	10:59
	STD 280-408278/22	MS9_7353.D	03/19/2018	11:20
	STD 280-408278/23	MS9_7354.D	03/19/2018	11:40
	ICV 280-408278/24	MS9_7355.D	03/19/2018	12:01



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_0683.D BFB Injection Date: 05/30/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 19:18  
 Analysis Batch No.: 416844

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	20.9
75	30.0 - 60.0 % of mass 95	48.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.5
173	Less than 2.0 % of mass 174	1.1 (1.2) 1
174	50.0 - 120.00 % of mass 95	94.4
175	5.0 - 9.0 % of mass 174	8.2 (8.7) 1
176	95.0 - 101.0 % of mass 174	90.6 (95.9) 1
177	5.0 - 9.0 % of mass 176	7.4 (8.2) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD60 280-416844/10	MS9_0688.D	05/30/2018	23:13
	STD30 280-416844/11	MS9_0689.D	05/30/2018	23:34
	ICIS 280-416844/12	MS9_0690.D	05/30/2018	23:55
	STD5 280-416844/13	MS9_0691.D	05/31/2018	00:16
	STD2 280-416844/14	MS9_0692.D	05/31/2018	00:36
	STD1 280-416844/15	MS9_0693.D	05/31/2018	00:57
	STD03 280-416844/16	MS9_0694.D	05/31/2018	01:18
	ICV 280-416844/17	MS9_0695.D	05/31/2018	02:52



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_1292.D BFB Injection Date: 06/13/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 19:44  
 Analysis Batch No.: 418481

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	22.7
75	30.0 - 60.0 % of mass 95	52.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.9
173	Less than 2.0 % of mass 174	0.2 (0.2) 1
174	50.0 - 120.00 % of mass 95	93.9
175	5.0 - 9.0 % of mass 174	8.3 (8.8) 1
176	95.0 - 101.0 % of mass 174	89.8 (95.5) 1
177	5.0 - 9.0 % of mass 176	7.0 (7.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD2 280-418481/10	MS9_1296.D	06/13/2018	21:22
	STD5 280-418481/11	MS9_1297.D	06/13/2018	21:43
	STD10 280-418481/12	MS9_1298.D	06/13/2018	22:04
	STD30 280-418481/13	MS9_1299.D	06/13/2018	22:25
	STD60 280-418481/14	MS9_1300.D	06/13/2018	22:46
	ICV 280-418481/15	MS9_1301.D	06/13/2018	23:07



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_1988.D BFB Injection Date: 06/28/2018  
Instrument ID: VMS\_MS9 BFB Injection Time: 08:48  
Analysis Batch No.: 420342

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.6
75	30.0 - 60.0 % of mass 95	52.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.7
173	Less than 2.0 % of mass 174	1.2 (1.1) 1
174	50.0 - 120.00 % of mass 95	101.7
175	5.0 - 9.0 % of mass 174	8.7 (8.5) 1
176	95.0 - 101.0 % of mass 174	97.4 (95.8) 1
177	5.0 - 9.0 % of mass 176	7.7 (7.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-420342/2	MS9_1990.D	06/28/2018	09:28
	CCV 280-420342/3	MS9_1991.D	06/28/2018	09:48
	LCS 280-420342/4	MS9_1992.D	06/28/2018	10:09
	MB 280-420342/6	MS9_1993.D	06/28/2018	10:30
AFDV-154	280-111005-10	MS9_1999.D	06/28/2018	12:34
	280-111018-E-5 MS	MS9_2004.D	06/28/2018	14:21
	280-111018-E-5 MSD	MS9_2006.D	06/28/2018	15:03



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab File ID: R2068.D BFB Injection Date: 06/20/2018  
Instrument ID: VMS\_R1 BFB Injection Time: 23:30  
Analysis Batch No.: 419367

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	15.4
75	30.0 - 60.0 % of mass 95	45.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.8
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	67.8
175	5.0 - 9.0 % of mass 174	4.2 (6.3) 1
176	95.0 - 101.0 % of mass 174	65.6 (96.7) 1
177	5.0 - 9.0 % of mass 176	4.5 (6.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD60 280-419367/10	R2071.D	06/21/2018	00:33
	STD30 280-419367/11	R2072.D	06/21/2018	00:52
	STD10 280-419367/12	R2073.D	06/21/2018	01:11
	STD5 280-419367/13	R2074.D	06/21/2018	01:30
	STD2 280-419367/14	R2075.D	06/21/2018	01:49
	STD1 280-419367/15	R2076.D	06/21/2018	02:08
	STD03 280-419367/16	R2077.D	06/21/2018	02:28
	ICV 280-419367/17	R2078.D	06/21/2018	02:47
	STD 280-419367/18	R2085.D	06/21/2018	07:34
	STD 280-419367/19	R2086.D	06/21/2018	07:53
	STD 280-419367/20	R2087.D	06/21/2018	08:12
	ICIS 280-419367/21	R2088.D	06/21/2018	08:32
	STD 280-419367/22	R2089.D	06/21/2018	08:51
	STD 280-419367/23	R2090.D	06/21/2018	09:10
	ICV 280-419367/24	R2091.D	06/21/2018	09:29



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab File ID: R2501.D BFB Injection Date: 06/28/2018  
Instrument ID: VMS\_R1 BFB Injection Time: 18:32  
Analysis Batch No.: 420464

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	15.3
75	30.0 - 60.0 % of mass 95	45.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.8
173	Less than 2.0 % of mass 174	0.3 (0.4) 1
174	50.0 - 120.00 % of mass 95	75.8
175	5.0 - 9.0 % of mass 174	5.5 (7.3) 1
176	95.0 - 101.0 % of mass 174	72.4 (95.5) 1
177	5.0 - 9.0 % of mass 176	4.8 (6.6) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-420464/2	R2503.D	06/28/2018	19:08
	CCV 280-420464/3	R2504.D	06/28/2018	19:27
	MB 280-420464/6	R2506.D	06/28/2018	20:12
AFDV-153	280-111005-8	R2507.D	06/28/2018	20:38
	LCS 280-420464/4	R2508.D	06/28/2018	20:57
AFDV-136	280-111005-3	R2509.D	06/28/2018	21:16
AFDV-137	280-111005-4	R2510.D	06/28/2018	21:36
AFDV-102	280-111005-5	R2511.D	06/28/2018	21:55
AFDV-135	280-111005-6	R2512.D	06/28/2018	22:14
AFDV-152	280-111005-9	R2513.D	06/28/2018	22:33
AFDV-136 MS	280-111005-3 MS	R2517.D	06/28/2018	23:52
AFDV-136 MSD	280-111005-3 MSD	R2518.D	06/29/2018	00:11
AFDV-136 DL	280-111005-3 DL	R2519.D	06/29/2018	00:30
AFDV-137 DL	280-111005-4 DL	R2520.D	06/29/2018	00:49
AFDV-102 DL	280-111005-5 DL	R2521.D	06/29/2018	01:09
AFDV-135 DL	280-111005-6 DL	R2522.D	06/29/2018	01:28



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-408278/21 Date Analyzed: 03/19/2018 10:59  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_7352.D Heated Purge: (Y/N) Y  
 Calibration ID: 31915

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	85562	5.54	656921	7.33	165751	9.65	
UPPER LIMIT	171124	6.04	1313842	7.83	331502	10.15	
LOWER LIMIT	42781	5.04	328461	6.83	82876	9.15	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-408278/24		76496	5.54	605325	7.33	153559	9.65

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Sample No.: ICIS 280-408278/21 Date Analyzed: 03/19/2018 10:59  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
Lab File ID (Standard): MS9\_7352.D Heated Purge: (Y/N) Y  
Calibration ID: 31915

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	250610	11.80				
UPPER LIMIT	501220	12.30				
LOWER LIMIT	125305	11.30				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-408278/24		235246	11.80			

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-416844/12 Date Analyzed: 05/30/2018 23:55  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_0690.D Heated Purge: (Y/N) Y  
 Calibration ID: 32565

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		164412	5.53	1075720	7.31	267115	9.64
UPPER LIMIT		328824	6.03	2151440	7.81	534230	10.14
LOWER LIMIT		82206	5.03	537860	6.81	133558	9.14
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-416844/17		148460	5.54	1001427	7.31	244980	9.64
CCV 280-420342/2		145767	5.52	1062435	7.30	298491	9.63
CCV 280-420342/3		169152	5.53	1243603	7.30	344216	9.63
LCS 280-420342/4		167149	5.52	1254097	7.30	356415	9.63
MB 280-420342/6		164567	5.52	1277170	7.30	366266	9.63
280-111005-10	AFDV-154	166435	5.52	1171703	7.30	328276	9.63
280-111018-E-5 MS		189121	5.53	1130340	7.30	322867	9.63
280-111018-E-5 MSD		193195	5.52	1272208	7.30	364201	9.63

TBA<sub>d</sub>9 = TBA-d9 (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-416844/12 Date Analyzed: 05/30/2018 23:55  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_0690.D Heated Purge: (Y/N) Y  
 Calibration ID: 32565

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		406595	11.78				
UPPER LIMIT		813190	12.28				
LOWER LIMIT		203298	11.28				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-416844/17		384050	11.78				
CCV 280-420342/2		519648	11.77				
CCV 280-420342/3		563132	11.77				
LCS 280-420342/4		578869	11.77				
MB 280-420342/6		571521	11.77				
280-111005-10	AFDV-154	538488	11.77				
280-111018-E-5 MS		556755	11.77				
280-111018-E-5 MSD		605487	11.77				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419367/21 Date Analyzed: 06/21/2018 08:32  
 Instrument ID: VMS\_R1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): R2088.D Heated Purge: (Y/N) N  
 Calibration ID: 32770

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		91840	5.20	1375663	7.13	295551	9.42
UPPER LIMIT		183680	5.70	2751326	7.63	591102	9.92
LOWER LIMIT		45920	4.70	687832	6.63	147776	8.92
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419367/24		98983	5.20	1493806	7.13	329974	9.42
CCV 280-420464/2		152615	5.21	2068189	7.13	428187	9.42
CCV 280-420464/3		152767	5.20	2148424	7.13	450981	9.42
MB 280-420464/6		138156	5.20	1806285	7.13	386735	9.42
280-111005-8	AFDV-153	81671	5.20	1705715	7.13	319657	9.43
LCS 280-420464/4		146023	5.21	2017441	7.13	408173	9.42
280-111005-3	AFDV-136	124415	5.20	1904213	7.13	371232	9.42
280-111005-4	AFDV-137	127073	5.21	1964394	7.13	372101	9.42
280-111005-5	AFDV-102	125833	5.20	1809734	7.13	370329	9.42
280-111005-6	AFDV-135	126885	5.20	1832586	7.13	384340	9.42
280-111005-9	AFDV-152	124905	5.21	1712401	7.13	343460	9.42
280-111005-3 MS	AFDV-136 MS	137355	5.20	2048165	7.13	415522	9.42
280-111005-3 MSD	AFDV-136 MSD	158144	5.20	2125420	7.13	434605	9.42
280-111005-3 DL	AFDV-136 DL	128250	5.20	1890782	7.13	370352	9.42
280-111005-4 DL	AFDV-137 DL	126782	5.20	1826479	7.13	351669	9.42
280-111005-5 DL	AFDV-102 DL	119945	5.21	1765016	7.13	346609	9.42
280-111005-6 DL	AFDV-135 DL	112451	5.21	1758765	7.13	347853	9.42

TBAd9 = TBA-d9 (IS)

FB = Fluorobenzene

CBNZd5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419367/21 Date Analyzed: 06/21/2018 08:32  
 Instrument ID: VMS\_R1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): R2088.D Heated Purge: (Y/N) N  
 Calibration ID: 32770

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		368467	11.19				
UPPER LIMIT		736934	11.69				
LOWER LIMIT		184234	10.69				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419367/24		402419	11.19				
CCV 280-420464/2		646987	11.19				
CCV 280-420464/3		534222	11.19				
MB 280-420464/6		467988	11.19				
280-111005-8	AFDV-153	356898	11.19				
LCS 280-420464/4		598667	11.19				
280-111005-3	AFDV-136	441965	11.19				
280-111005-4	AFDV-137	448826	11.19				
280-111005-5	AFDV-102	445661	11.19				
280-111005-6	AFDV-135	450645	11.19				
280-111005-9	AFDV-152	451807	11.19				
280-111005-3 MS	AFDV-136 MS	608866	11.19				
280-111005-3 MSD	AFDV-136 MSD	630695	11.19				
280-111005-3 DL	AFDV-136 DL	453402	11.19				
280-111005-4 DL	AFDV-137 DL	429844	11.19				
280-111005-5 DL	AFDV-102 DL	430257	11.19				
280-111005-6 DL	AFDV-135 DL	422822	11.19				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-136</u>	Lab Sample ID: <u>280-111005-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2509.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 11:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 21:16</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420464</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4600		200	32
75-34-3	1,1-Dichloroethane	1300		200	44
75-35-4	1,1-Dichloroethene	460		200	46
107-06-2	1,2-Dichloroethane	ND		200	26
78-93-3	Methyl ethyl ketone (MEK)	ND		1200	400
67-64-1	Acetone	ND		2000	380
71-43-2	Benzene	ND		200	32
75-00-3	Chloroethane	ND		400	82
156-59-2	<i>cis</i> -1,2-Dichloroethene	41000	E	200	30
100-41-4	Ethylbenzene	ND		200	32
75-09-2	Methylene Chloride	260	J B	400	64
179601-23-1	m-Xylene & p-Xylene	ND		400	68
95-47-6	o-Xylene	ND		200	38
100-42-5	Styrene	ND		200	34
127-18-4	Tetrachloroethene	1300		200	40
108-88-3	Toluene	ND		200	34
156-60-5	<i>trans</i> -1,2-Dichloroethene	51	J	200	30
79-01-6	Trichloroethene	1600		200	32
75-01-4	Vinyl chloride	2500		200	20
1330-20-7	Xylenes, Total	ND		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	93		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-136 DL Lab Sample ID: 280-111005-3 DL  
 Matrix: Water Lab File ID: R2519.D  
 Analysis Method: 8260B Date Collected: 06/14/2018 11:00  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/29/2018 00:30  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 2000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420464 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	42000	H	2000	300

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-137</u>	Lab Sample ID: <u>280-111005-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2510.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 09:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 21:36</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>40</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420464</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	6800	E	40	6.4
75-34-3	1,1-Dichloroethane	620		40	8.8
75-35-4	1,1-Dichloroethene	460		40	9.2
107-06-2	1,2-Dichloroethane	5.9	J	40	5.2
78-93-3	Methyl ethyl ketone (MEK)	ND		240	80
67-64-1	Acetone	ND		400	76
71-43-2	Benzene	ND		40	6.4
75-00-3	Chloroethane	ND		80	16
156-59-2	cis-1,2-Dichloroethene	2200		40	6.0
100-41-4	Ethylbenzene	ND		40	6.4
75-09-2	Methylene Chloride	24	J B	80	13
179601-23-1	m-Xylene & p-Xylene	ND		80	14
95-47-6	o-Xylene	7.7	J	40	7.6
100-42-5	Styrene	ND		40	6.8
127-18-4	Tetrachloroethene	ND		40	8.0
108-88-3	Toluene	ND		40	6.8
156-60-5	trans-1,2-Dichloroethene	ND		40	6.0
79-01-6	Trichloroethene	ND		40	6.4
75-01-4	Vinyl chloride	560		40	4.0
1330-20-7	Xylenes, Total	7.7	J	80	7.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		70-127
460-00-4	4-Bromofluorobenzene (Surr)	92		78-120
1868-53-7	Dibromofluoromethane (Surr)	91		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-137 DL Lab Sample ID: 280-111005-4 DL  
 Matrix: Water Lab File ID: R2520.D  
 Analysis Method: 8260B Date Collected: 06/14/2018 09:30  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/29/2018 00:49  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 400  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420464 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	6300	H	400	64

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	95		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	107		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-102</u>	Lab Sample ID: <u>280-111005-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2511.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 09:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 21:55</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420464</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	0.46	J	1.0	0.16
75-34-3	1,1-Dichloroethane	6.4		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	3.4	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	<i>cis</i> -1,2-Dichloroethene	110	E	1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.58	J B	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	2.1		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	<i>trans</i> -1,2-Dichloroethene	0.64	J	1.0	0.15
79-01-6	Trichloroethene	5.5		1.0	0.16
75-01-4	Vinyl chloride	0.35	J	1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-127
460-00-4	4-Bromofluorobenzene (Surr)	90		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-102 DL Lab Sample ID: 280-111005-5 DL

Matrix: Water Lab File ID: R2521.D

Analysis Method: 8260B Date Collected: 06/14/2018 09:30

Sample wt/vol: 20 (mL) Date Analyzed: 06/29/2018 01:09

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 4

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420464 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	110	H	4.0	0.60

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		70-127
460-00-4	4-Bromofluorobenzene (Surr)	92		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	107		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-135</u>	Lab Sample ID: <u>280-111005-6</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2512.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 11:45</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 22:14</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>800</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420464</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	6000		800	130
75-34-3	1,1-Dichloroethane	830		800	180
75-35-4	1,1-Dichloroethene	830		800	180
107-06-2	1,2-Dichloroethane	ND		800	100
78-93-3	Methyl ethyl ketone (MEK)	ND		4800	1600
67-64-1	Acetone	ND		8000	1500
71-43-2	Benzene	ND		800	130
75-00-3	Chloroethane	ND		1600	330
156-59-2	<i>cis</i> -1,2-Dichloroethene	160000	E	800	120
100-41-4	Ethylbenzene	1300		800	130
75-09-2	Methylene Chloride	510	J B	1600	260
179601-23-1	m-Xylene & p-Xylene	6700		1600	270
95-47-6	o-Xylene	720	J	800	150
100-42-5	Styrene	ND		800	140
127-18-4	Tetrachloroethene	ND		800	160
108-88-3	Toluene	2700		800	140
156-60-5	<i>trans</i> -1,2-Dichloroethene	ND		800	120
79-01-6	Trichloroethene	ND		800	130
75-01-4	Vinyl chloride	13000		800	80
1330-20-7	Xylenes, Total	7400		1600	150

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-127
460-00-4	4-Bromofluorobenzene (Surr)	96		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	94		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-135 DL Lab Sample ID: 280-111005-6 DL  
 Matrix: Water Lab File ID: R2522.D  
 Analysis Method: 8260B Date Collected: 06/14/2018 11:45  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/29/2018 01:28  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 8000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420464 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	170000	H	8000	1200

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-127
460-00-4	4-Bromofluorobenzene (Surr)	93		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-153</u>	Lab Sample ID: <u>280-111005-8</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2507.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 12:03</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 20:38</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420464</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	2.8	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.43	J B	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	82		70-127
460-00-4	4-Bromofluorobenzene (Surr)	92		78-120
1868-53-7	Dibromofluoromethane (Surr)	87		77-120
2037-26-5	Toluene-d8 (Surr)	108		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-152 Lab Sample ID: 280-111005-9  
 Matrix: Water Lab File ID: R2513.D  
 Analysis Method: 8260B Date Collected: 06/14/2018 12:02  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/28/2018 22:33  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420464 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-43-2	Benzene	ND		1.0	0.16
78-93-3	2-Butanone (MEK)	ND		6.0	2.0
56-23-5	Carbon tetrachloride	ND		1.0	0.19
108-90-7	Chlorobenzene	ND		1.0	0.17
67-66-3	Chloroform	ND		1.0	0.16
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
127-18-4	Tetrachloroethene	2.2		1.0	0.20
79-01-6	Trichloroethene	0.31	J	1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
2037-26-5	Toluene-d8 (Surr)	104		80-125
460-00-4	4-Bromofluorobenzene (Surr)	96		78-120
1868-53-7	Dibromofluoromethane (Surr)	100		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-154</u>	Lab Sample ID: <u>280-111005-10</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_1999.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 12:04</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 12:34</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420342</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.53	J B	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		70-127
460-00-4	4-Bromofluorobenzene (Surr)	85		78-120
1868-53-7	Dibromofluoromethane (Surr)	102		77-120
2037-26-5	Toluene-d8 (Surr)	92		80-125



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-408278/18	MS9_7349.D
Level 2	STD 280-408278/19	MS9_7350.D
Level 3	STD 280-408278/20	MS9_7351.D
Level 4	ICIS 280-408278/21	MS9_7352.D
Level 5	STD 280-408278/22	MS9_7353.D
Level 6	STD 280-408278/23	MS9_7354.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0057 0.0047	0.0067	0.0060	0.0058	0.0055	Ave		0.0057				11.4		15.0			
Ethanol	++++ 0.1112	0.1771	0.1275	0.1205	0.1261	Lin2	7.4739	0.1113							0.9930		0.9900
Propene oxide	0.0185 0.0159	0.0201	0.0193	0.0186	0.0179	Ave		0.0184				7.7		15.0			
2-Propanol	1.4064 0.7528	1.1829	0.8864	0.7550	0.8041	Lin2	6.9153	0.7514							0.9930		0.9900
Acetonitrile	++++ 0.0095	0.0093	0.0092	0.0104	0.0102	Ave		0.0097				5.5		15.0			
Di-isopropyl ether (DIPE)	0.1988 0.1893	0.2040	0.2085	0.1972	0.2007	Ave		0.1998				3.3		15.0			
Chloroprene	0.5461 0.5697	0.6134	0.5904	0.5968	0.6060	Ave		0.5871				4.3		15.0			
Tert-butyl ethyl ether	0.6354 0.6588	0.7028	0.6721	0.6703	0.6904	Ave		0.6716				3.5		15.0			
Ethyl acetate	0.0775 0.0719	0.0744	0.0760	0.0721	0.0730	Ave		0.0742				3.1		15.0			
Propionitrile	0.0103 0.0105	0.0113	0.0112	0.0110	0.0111	Ave		0.0109				3.7		15.0			
Methacrylonitrile	0.0565 0.0581	0.0609	0.0612	0.0602	0.0614	Ave		0.0597				3.3		15.0			
Tert-amyl methyl ether	0.5254 0.5206	0.5542	0.5371	0.5264	0.5419	Ave		0.5343				2.4		15.0			
n-Butanol	0.2038 0.3454	0.2643	0.2983	0.3158	0.3453	Lin2	-3.496	0.3386							0.9990		0.9900
Methyl methacrylate	0.0262 0.0267	0.0273	0.0276	0.0269	0.0266	Ave		0.0269				2.0		15.0			
2-Nitropropane	0.0297 0.0195	0.0255	0.0190	0.0207	0.0189	Lin2	0.0224	0.0188							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrahydrothiophene	0.0748 0.0969	0.0727	0.0789	0.0837	0.0896	Ave		0.0828				11.2		15.0			
cis-1,4-Dichloro-2-butene	0.0966 0.1140	0.1122	0.1182	0.1202	0.1205	Ave		0.1136				7.9		15.0			
1,2,3-Trimethylbenzene	3.3655 2.9758	3.5540	3.5107	3.3015	3.2041	Ave		3.3186				6.4		15.0			
1,3,5-Trichlorobenzene	1.4265 1.2184	1.4857	1.4775	1.3639	1.3503	Ave		1.3870				7.2		15.0			
Dibromofluoromethane (Surr)	0.3483 0.2888	0.3086	0.3104	0.3026	0.3010	Ave		0.3100				6.5		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2894 0.2530	0.2474	0.2687	0.2562	0.2668	Ave		0.2636				5.7		15.0			
Toluene-d8 (Surr)	++++ 4.5587	4.9918	5.3659	4.8618	4.7713	Ave		4.9099				6.1		15.0			
4-Bromofluorobenzene (Surr)	++++ 0.9750	1.1492	1.2054	1.0851	1.0459	Ave		1.0921				8.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-408278/18	MS9_7349.D
Level 2	STD 280-408278/19	MS9_7350.D
Level 3	STD 280-408278/20	MS9_7351.D
Level 4	ICIS 280-408278/21	MS9_7352.D
Level 5	STD 280-408278/22	MS9_7353.D
Level 6	STD 280-408278/23	MS9_7354.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Ave	34656 1434688	76527	167061	303800	809955	100 6000	200	500	1000	3000
Ethanol	TBAd 9	Lin2	++++ 129178	7755	13580	24753	70618	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	112250 4836318	228615	541531	975574	2654954	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Lin2	5077 145696	8633	15730	25840	75065	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	++++ 287907	10552	25948	54530	151942	++++ 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	12074 574391	23191	58545	103617	298147	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	33161 1728515	69716	165766	313665	900325	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	38580 1998679	79877	188695	352279	1025786	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	9412 436004	16916	42696	75776	216923	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	6257 317630	12807	31351	57966	165553	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	34317 1763665	69195	171934	316576	912944	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	31903 1579469	62986	150798	276640	805203	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Lin2	1839 167128	4823	13232	27024	80591	25.0 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	3177 162082	6215	15516	28282	79017	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Lin2	3607 118466	5787	10651	21733	56147	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	2336 148757	4223	11125	22205	67371	2.00 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 408278

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/19/2018 09:57 Calibration End Date: 03/19/2018 11:40 Calibration ID: 31915

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	4471 271854	9794	25027	48208	140365	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	77848 3549717	155063	371705	661921	1865865	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	32997 1453352	64821	156434	273437	786320	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	21149 876054	35080	87161	159032	447222	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	17570 767506	28116	75451	134656	396375	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 3497787	144959	378319	644682	1792849	++++ 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 1163049	50139	127622	217556	609039	++++ 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-416844/16	MS9_0694.D
Level 2	STD1 280-416844/15	MS9_0693.D
Level 3	STD2 280-416844/14	MS9_0692.D
Level 4	STD5 280-416844/13	MS9_0691.D
Level 5	ICIS 280-416844/12	MS9_0690.D
Level 6	STD30 280-416844/11	MS9_0689.D
Level 7	STD60 280-416844/10	MS9_0688.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4533 0.4391	0.4153 0.4039	0.3817	0.4148	0.4342	Ave		0.4203				5.7		15.0			
Chloromethane	0.4722 0.3685	0.4180 0.3338	0.3908	0.3891	0.3932	Ave		0.3951			0.1000	10.8		15.0			
Vinyl chloride	0.4588 0.3855	0.4522 0.3489	0.4379	0.4175	0.4053	Ave		0.4152				9.4		30.0			
Bromomethane	0.3576 0.2795	0.3106 0.2517	0.3009	0.2883	0.2912	Ave		0.2971				10.9		15.0			
Chloroethane	0.2877 0.2295	0.2590 0.2053	0.2583	0.2455	0.2390	Ave		0.2463				10.5		15.0			
Dichlorofluoromethane	0.6537 0.5605	0.6688 0.5064	0.6252	0.5959	0.5813	Ave		0.5988				9.4		15.0			
Trichlorofluoromethane	0.6947 0.5262	0.6169 0.4864	0.6027	0.5688	0.5630	Ave		0.5798				11.6		15.0			
Ethyl ether	++++ 0.1281	0.1477 0.1152	0.1395	0.1324	0.1361	Ave		0.1332				8.3		15.0			
Acrolein	++++ 0.0118	0.0143 0.0104	0.0127	0.0121	0.0118	Ave		0.0122				10.5		15.0			
Freon 113	0.3192 0.2711	0.3136 0.2528	0.3136	0.3002	0.2890	Ave		0.2942				8.4		15.0			
1,1-Dichloroethene	0.3793 0.2852	0.3373 0.2641	0.3368	0.3129	0.3024	Ave		0.3169				12.0		30.0			
Acetone	0.1786 0.0246	0.0674 0.0213	0.0426	0.0295	0.0273	Lin2	0.1885	0.0210							0.9940		0.9900
Iodomethane	++++ 0.4832	0.5781 0.4530	0.5379	0.5271	0.5161	Ave		0.5159				8.4		15.0			
Methyl acetate	++++ 0.0628	0.0738 0.0577	0.0637	0.0641	0.0648	Ave		0.0645				8.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.6298 0.4998	0.5997 0.4513	0.5550	0.5478	0.5256	Ave		0.5441				11.0		15.0			
Carbon disulfide	1.3538 1.1208	1.2836 1.0307	1.2134	1.2015	1.1788	Ave		1.1975				8.8		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	0.0107 0.0094	0.0107 0.0084	0.0096	0.0094	0.0095	Ave		0.0097				8.3		15.0			
Methylene Chloride	++++ 0.2455	0.3292 0.2233	0.2912	0.2690	0.2616	Ave		0.2700				13.7		15.0			
Methyl tert-butyl ether	0.4958 0.4103	0.4851 0.3733	0.4411	0.4216	0.4249	Lin2	0.0286	0.4148							0.9950		0.9900
trans-1,2-Dichloroethene	0.4036 0.2997	0.3571 0.2795	0.3445	0.3295	0.3189	Ave		0.3332				12.2		15.0			
Acrylonitrile	0.0360 0.0292	0.0341 0.0263	0.0314	0.0309	0.0301	Ave		0.0311				10.2		15.0			
Hexane	2.5437 2.0011	2.2044 1.8442	2.0286	2.0466	2.0515	Ave		2.1029				10.5		15.0			
Vinyl acetate	0.2570 0.2299	0.2458 0.2102	0.2364	0.2320	0.2222	Ave		0.2334				6.5		15.0			
1,1-Dichloroethane	0.6483 0.4892	0.5846 0.4476	0.5480	0.5289	0.5139	Ave		0.5372			0.1000	12.2		15.0			
Methyl ethyl ketone (MEK)	++++ 0.0435	0.0568 0.0392	0.0488	0.0447	0.0450	Ave		0.0463				12.9		15.0			
sec-Butyl Alcohol	++++ 0.8477	0.9429 0.7767	0.9460	0.9692	0.8810	Ave		0.8939				8.2		15.0			
2,2-Dichloropropane	0.6129 0.4860	0.5878 0.4524	0.5370	0.5399	0.4990	Ave		0.5307				10.7		15.0			
cis-1,2-Dichloroethene	0.3648 0.2953	0.3610 0.2749	0.3335	0.3229	0.3121	Ave		0.3235				10.2		15.0			
Tetrahydrofuran	++++ 0.0271	0.0284 0.0244	0.0263	0.0264	0.0271	Ave		0.0266				5.0		15.0			
Chloroform	0.5538 0.4487	0.5498 0.4171	0.4992	0.4829	0.4724	Ave		0.4891				10.3		30.0			
Chlorobromomethane	0.1147 0.1090	0.1273 0.1029	0.1232	0.1168	0.1155	Ave		0.1156				7.1		15.0			
1,1,1-Trichloroethane	0.6229 0.4871	0.5642 0.4533	0.5414	0.5315	0.5123	Ave		0.5304				10.3		15.0			
Isobutyl alcohol	++++ 0.8174	1.0082 0.7530	0.8733	0.9866	0.9003	Ave		0.8898				11.0		15.0			
Cyclohexane	++++ 0.5696	0.6500 0.5221	0.6351	0.6202	0.5955	Ave		0.5988				7.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.5032 0.4199	0.4954 0.3901	0.4663	0.4569	0.4396	Ave		0.4531				8.9		15.0			
Carbon tetrachloride	0.5645 0.4508	0.5226 0.4260	0.5046	0.4903	0.4699	Ave		0.4898				9.5		15.0			
n-Heptane	0.6593 0.5311	0.6006 0.4746	0.5812	0.5673	0.5481	Ave		0.5660				10.2		15.0			
Benzene	1.2562 0.9936	1.1885 0.9239	1.1267	1.0696	1.0498	Ave		1.0869				10.5		15.0			
1,2-Dichloroethane	0.3029 0.2385	0.2867 0.2199	0.2655	0.2557	0.2484	Ave		0.2597				10.9		15.0			
Trichloroethene	0.3888 0.3116	0.3709 0.2897	0.3499	0.3351	0.3227	Ave		0.3384				10.1		15.0			
2-Pentanone	0.0612 0.0593	0.0674 0.0528	0.0640	0.0623	0.0594	Ave		0.0609				7.5		15.0			
Methylcyclohexane	++++ 0.4805	0.5307 0.4376	0.5229	0.5177	0.4921	Ave		0.4969				7.0		15.0			
1,2-Dichloropropane	0.3061 0.2372	0.2873 0.2180	0.2684	0.2555	0.2451	Ave		0.2597				11.6		30.0			
1,4-Dioxane	++++ 0.0011	0.0011 0.0010	0.0011	0.0011	0.0011	Ave		0.0011				4.4		15.0			
Dibromomethane	0.1229 0.1029	0.1229 0.0941	0.1096	0.1092	0.1050	Ave		0.1095				9.6		15.0			
Dichlorobromomethane	0.3752 0.2968	0.3381 0.2757	0.3236	0.3132	0.3104	Ave		0.3190				9.9		15.0			
2-Chloroethyl vinyl ether	0.0799 0.0740	0.0771 0.0668	0.0759	0.0766	0.0729	Ave		0.0747				5.6		15.0			
cis-1,3-Dichloropropene	1.5235 1.3565	1.5616 1.2482	1.4588	1.4089	1.3757	Ave		1.4190				7.5		15.0			
4-Methyl-2-pentanone (MIBK)	0.0965 0.0840	0.0955 0.0740	0.0906	0.0873	0.0858	Ave		0.0877				8.7		15.0			
Toluene	1.3598 1.0522	1.2689 0.9663	1.2247	1.1796	1.0997	Ave		1.1644				11.6		30.0			
Ethyl methacrylate	0.7910 0.6518	0.7476 0.5921	0.7065	0.6630	0.6519	Ave		0.6863				9.8		15.0			
trans-1,3-Dichloropropene	0.3061 0.2632	0.3007 0.2365	0.2816	0.2754	0.2659	Ave		0.2756				8.6		15.0			
1,1,2-Trichloroethane	0.1819 0.1339	0.1605 0.1197	0.1511	0.1447	0.1413	Ave		0.1476				13.5		15.0			
Methyl n-butyl ketone (MNBK)	++++ 0.2381	0.2455 0.2043	0.2345	0.2441	0.2419	Ave		0.2347				6.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	1.3353 1.1365	1.3447 1.0846	1.2748	1.2185	1.1678	Ave		1.2232				8.2		15.0			
1,3-Dichloropropane	1.1512 0.9255	1.0873 0.8331	1.0252	0.9565	0.9343	Ave		0.9876				10.9		15.0			
Chlorodibromomethane	0.8159 0.7743	0.8593 0.7218	0.7979	0.7641	0.7794	Ave		0.7875				5.5		15.0			
1,2-Dibromoethane	0.6019 0.5415	0.6288 0.4899	0.6084	0.5546	0.5524	Ave		0.5682				8.4		15.0			
1-Chlorohexane	2.3948 1.7731	2.0852 1.6181	1.9860	1.9043	1.7943	Ave		1.9365				13.1		15.0			
Chlorobenzene	3.4539 2.7359	3.3507 2.5466	3.1455	2.9574	2.8265	Ave		3.0024			0.3000	11.0		15.0			
Ethylbenzene	2.1190 1.7902	2.1362 1.6719	2.0412	1.9479	1.8250	Ave		1.9330				9.2		30.0			
1,1,1,2-Tetrachloroethane	1.2029 1.0064	1.1113 0.9651	1.0875	1.0410	1.0364	Ave		1.0644				7.3		15.0			
m-Xylene & p-Xylene	5.1509 3.9606	4.7491 3.6991	4.5917	4.2740	4.0599	Ave		4.3550				11.6		15.0			
o-Xylene	2.4624 1.9516	2.3003 1.8326	2.2155	2.1049	1.9977	Ave		2.1236				10.3		15.0			
Styrene	3.5499 2.9862	3.4834 2.7478	3.2914	3.1915	3.0608	Ave		3.1873				8.9		15.0			
Bromoform	0.4378 0.4371	0.4543 0.4098	0.4351	0.4260	0.4366	Ave		0.4338			0.1000	3.1		15.0			
Isopropylbenzene	4.1211 3.3519	4.0051 3.2077	3.8127	3.6537	3.4426	Ave		3.6564				9.4		15.0			
Cyclohexanone	++++ 0.0124	0.0151 0.0111	0.0128	0.0127	0.0127	Ave		0.0128				10.1		15.0			
1,1,2,2-Tetrachloroethane	0.4507 0.3657	0.4337 0.3351	0.3946	0.3743	0.3695	Ave		0.3891			0.3000	10.4		15.0			
trans-1,4-Dichloro-2-butene	0.1709 0.1347	0.1583 0.1227	0.1422	0.1404	0.1362	Ave		0.1436				11.2		15.0			
N-Propylbenzene	1.2529 1.0465	1.2444 0.9989	1.2131	1.1681	1.0715	Ave		1.1422				9.0		15.0			
1,2,3-Trichloropropane	++++ 0.1112	0.1241 0.1015	0.1112	0.1137	0.1120	Ave		0.1123				6.4		15.0			
Bromobenzene	0.9738 0.7659	0.9236 0.7205	0.8677	0.8184	0.8004	Ave		0.8386				10.6		15.0			
1,3,5-Trimethylbenzene	3.2931 2.7651	3.2740 2.6468	3.1333	3.0402	2.8218	Ave		2.9963				8.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	1.1074 0.8537	1.0784 0.8148	0.9854	0.9232	0.8750	Ave		0.9483				11.9		15.0			
4-Chlorotoluene	1.0500 0.8567	1.0322 0.8083	0.9670	0.9361	0.8931	Ave		0.9348				9.5		15.0			
tert-Butylbenzene	3.0200 2.5060	3.0332 2.4437	2.8614	2.7090	2.5737	Ave		2.7353				8.8		15.0			
1,2,4-Trimethylbenzene	3.4830 2.7669	3.2290 2.6352	3.1267	3.0429	2.8319	Ave		3.0165				9.7		15.0			
sec-Butylbenzene	1.0547 0.8497	1.0337 0.8322	0.9778	0.9494	0.8744	Ave		0.9388				9.5		15.0			
4-Isopropyltoluene	4.0957 3.2463	3.8641 3.1088	3.7547	3.6278	3.3153	Ave		3.5732				10.1		15.0			
1,3-Dichlorobenzene	1.8910 1.5214	1.8078 1.4325	1.7679	1.6672	1.5754	Ave		1.6662				9.9		15.0			
1,4-Dichlorobenzene	1.8621 1.4865	1.8068 1.3904	1.7157	1.6030	1.5170	Ave		1.6259				10.8		15.0			
n-Butylbenzene	4.0034 3.1630	3.7644 2.9449	3.6289	3.5085	3.1901	Ave		3.4576				10.9		15.0			
1,2-Dichlorobenzene	1.5652 1.2559	1.5037 1.1782	1.4697	1.3321	1.2963	Ave		1.3716				10.4		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0784	0.0918 0.0753	0.0852	0.0772	0.0792	Ave		0.0812				7.6		15.0			
1,2,4-Trichlorobenzene	1.2606 0.9872	1.1622 0.9481	1.1222	1.0543	1.0132	Ave		1.0783				10.2		15.0			
Hexachlorobutadiene	1.0277 0.8127	1.0090 0.8088	0.9650	0.8986	0.8412	Ave		0.9090				10.2		15.0			
Naphthalene	1.4393 1.2084	1.4003 1.1306	1.3129	1.2300	1.2472	Ave		1.2812				8.5		15.0			
1,2,3-Trichlorobenzene	0.9988 0.7879	0.9401 0.7510	0.8883	0.8267	0.8098	Ave		0.8575				10.3		15.0			
Dibromofluoromethane (Surr)	++++ 0.2338	0.3517 0.2208	0.2885	0.2587	0.2533	Lin2	0.1219	0.2302							0.9980		0.9900
1,2-Dichloroethane-d4 (Surr)	++++ 0.1953	0.3213 0.1786	0.2363	0.2145	0.2016	Lin2	0.1320	0.1839							0.9970		0.9900
Toluene-d8 (Surr)	++++ 3.5160	5.4000 3.3109	4.5202	3.9671	3.7016	Lin2	2.0081	3.4501							0.9990		0.9900
4-Bromofluorobenzene (Surr)	++++ 0.8351	1.4055 0.7755	1.1202	0.9640	0.8859	Lin2	0.6046	0.8113							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-416844/16	MS9_0694.D
Level 2	STD1 280-416844/15	MS9_0693.D
Level 3	STD2 280-416844/14	MS9_0692.D
Level 4	STD5 280-416844/13	MS9_0691.D
Level 5	ICIS 280-416844/12	MS9_0690.D
Level 6	STD30 280-416844/11	MS9_0689.D
Level 7	STD60 280-416844/10	MS9_0688.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	11257 1037310	33864 1982158	65985	174314	373695	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	11725 870518	34086 1638323	67554	163521	338411	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	11393 910785	36879 1712092	75698	175444	348800	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	8881 660339	25328 1235415	52009	121143	250561	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	7144 542134	21121 1007353	44654	103150	205692	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	16233 1324114	54541 2484996	108079	250409	500230	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	17250 1243211	50307 2387063	104189	239039	484547	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	+++++ 302713	12043 565330	24116	55619	117102	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	+++++ 278546	11631 509872	21986	50676	101626	+++++ 300	10.00 600	20.0	50.0	100.0
Freon 113	FB	Ave	7927 640481	25575 1240656	54215	126167	248683	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	9418 673697	27507 1296267	58224	131475	260270	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acetone	FB	Lin2	17738 232252	21997 417671	29423	49654	93864	1.20 120	4.00 240	8.00	20.0	40.0
Iodomethane	FB	Ave	+++++ 1141651	47143 2223193	92984	221495	444132	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	+++++ 296564	12036 566494	22023	53874	111590	+++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	15640 1180825	48902 2214630	95941	230202	452319	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	33619 2647913	104676 5058275	209751	504920	1014412	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Ave	2662 221754	8721 414371	16525	39510	82081	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	++++ 580000	26843 1095629	50333	113031	225160	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Lin2	12311 969288	39556 1832085	76245	177153	365636	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	10022 708071	29123 1371409	59548	138463	274414	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	8933 689562	27838 1292564	54213	130043	259047	3.00 300	10.0 600	20.0	50.0	100
Hexane	CBNZ d5	Ave	15741 1154251	45136 2181221	88408	216310	438379	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	12762 1086358	40085 2063356	81737	194948	382423	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	16099 1155804	47672 2196424	94729	222281	442208	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	++++ 411422	18520 769040	33747	75098	154943	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 486894	16694 906766	35847	86463	173808	++++ 900	30.0 1800	60.0	150	300
2,2-Dichloropropane	FB	Ave	15219 1148117	47930 2219950	92825	226871	429428	0.300 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,2-Dichloroethene	FB	Ave	9058 697625	29442 1349076	57643	135698	268551	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 127966	4625 239154	9091	22207	46632	++++ 60.0	2.00 120	4.00	10.0	20.0
Chloroform	FB	Ave	13752 1060120	44834 2046637	86298	202926	406569	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	2849 257539	10381 504997	21292	49085	99406	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	15468 1150815	46010 2224385	93577	223333	440901	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isobutyl alcohol	TBAd 9	Ave	++++ 391209	14875 732573	27578	73344	148018	++++ 750	25.0 1500	50.0	125	250
Cyclohexane	FB	Ave	++++ 1345810	53007 2562214	109787	260638	512493	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	12495 992132	40402 1914280	80601	192008	378321	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	14019 1064972	42614 2090626	87222	206054	404346	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Heptane	FB	Ave	16373 1254832	48976 2328826	100458	238383	471683	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	31194 2347317	96919 4533865	194766	449500	903471	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane	FB	Ave	7522 563501	23382 1079367	45898	107445	213767	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	9656 736270	30249 1421824	60481	140838	277742	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	6077 560147	21984 1036226	44233	104746	204465	1.20 120	4.00 240	8.00	20.0	40.0
Methylcyclohexane	FB	Ave	++++ 1135303	43273 2147485	90394	217546	423508	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	7601 560417	23428 1070001	46392	107359	210946	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Ave	++++ 54185	1773 99046	3725	9459	18514	++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	3052 243192	10025 461638	18952	45875	90329	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	9317 701301	27570 1352831	55932	131608	267110	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Ave	1984 174746	6290 327924	13126	32174	62747	0.300 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	9428 782436	31973 1476372	63574	148911	293986	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	9581 793907	31146 1452311	62632	146809	295482	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	33766 2485731	103473 4742151	211703	495705	946369	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	4895 375950	15308 700276	30789	70070	139297	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	7602 621873	24517 1160431	48679	115752	228807	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	4517 316382	13087 587170	26114	60801	121613	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	++++ 549308	20104 966390	40878	103209	206748	++++ 120	4.00 240	8.00	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	8263 655552	27533 1282867	55556	128781	249552	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	7124 533806	22262 985356	44679	101093	199647	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Ave	5049 446614	17595 853763	34772	80759	166562	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	3725 312361	12874 579481	26515	58617	118045	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	14820 1022701	42694 1913803	86552	201266	383417	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	21374 1578076	68606 3011968	137085	312570	603996	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	13113 1032555	43739 1977403	88956	205873	389988	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	7444 580466	22753 1141494	47393	110025	221476	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	31875 2284431	97238 4375106	200110	451714	867561	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	15238 1125663	47098 2167501	96554	222463	426890	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	21968 1722397	71323 3249989	143441	337314	654068	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Ave	2709 252117	9302 484678	18963	45025	93295	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	39470 2958788	123324 5682051	253997	587074	1119804	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	++++ 286843	12361 524876	22336	53878	108659	++++ 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	4317 322811	13354 593670	26290	60148	120192	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	1637 118902	4873 217354	9473	22567	44293	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	12000 923754	38316 1769444	80817	187696	348524	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	++++ 98118	3820 179759	7407	18274	36447	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	9327 676111	28439 1276244	57807	131503	260339	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	31540 2440852	100812 4688432	208738	488494	917879	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	10606 753580	33205 1443388	65644	148343	284604	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	10056 756203	31784 1431765	64420	150416	290489	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	28924 2212085	93397 4328701	190623	435276	837176	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	33359 2442416	99427 4667887	208301	488924	921155	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 416844

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 05/30/2018 23:13 Calibration End Date: 05/31/2018 01:18 Calibration ID: 32565

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Ave	10101 750095	31830 1474188	65139	152544	284427	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	39227 2865609	118983 5506822	250136	582911	1078387	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	18111 1343020	55665 2537447	117779	267891	512430	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	17834 1312154	55635 2462936	114297	257566	493448	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	38343 2792074	115912 5216487	241755	563745	1037676	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14991 1108627	46300 2087054	97908	214036	421646	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	++++ 69185	2826 133417	5678	12407	25763	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	12073 871416	35786 1679506	74762	169407	329572	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	9843 717412	31069 1432616	64288	144386	273615	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	13785 1066701	43116 2002713	87462	197631	405671	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	9566 695514	28947 1330228	59180	132832	263409	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Lin2	++++ 552299	28683 1083714	49866	108701	218017	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin2	++++ 461300	26201 876389	40844	90130	173476	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Lin2	++++ 2028002	110566 3916025	196995	419285	790999	++++ 30.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Lin2	++++ 737206	43277 1373632	74626	154896	288175	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin2 = Linear 1/conc^2 ISTD



# Calibration

/ Dichlorodifluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

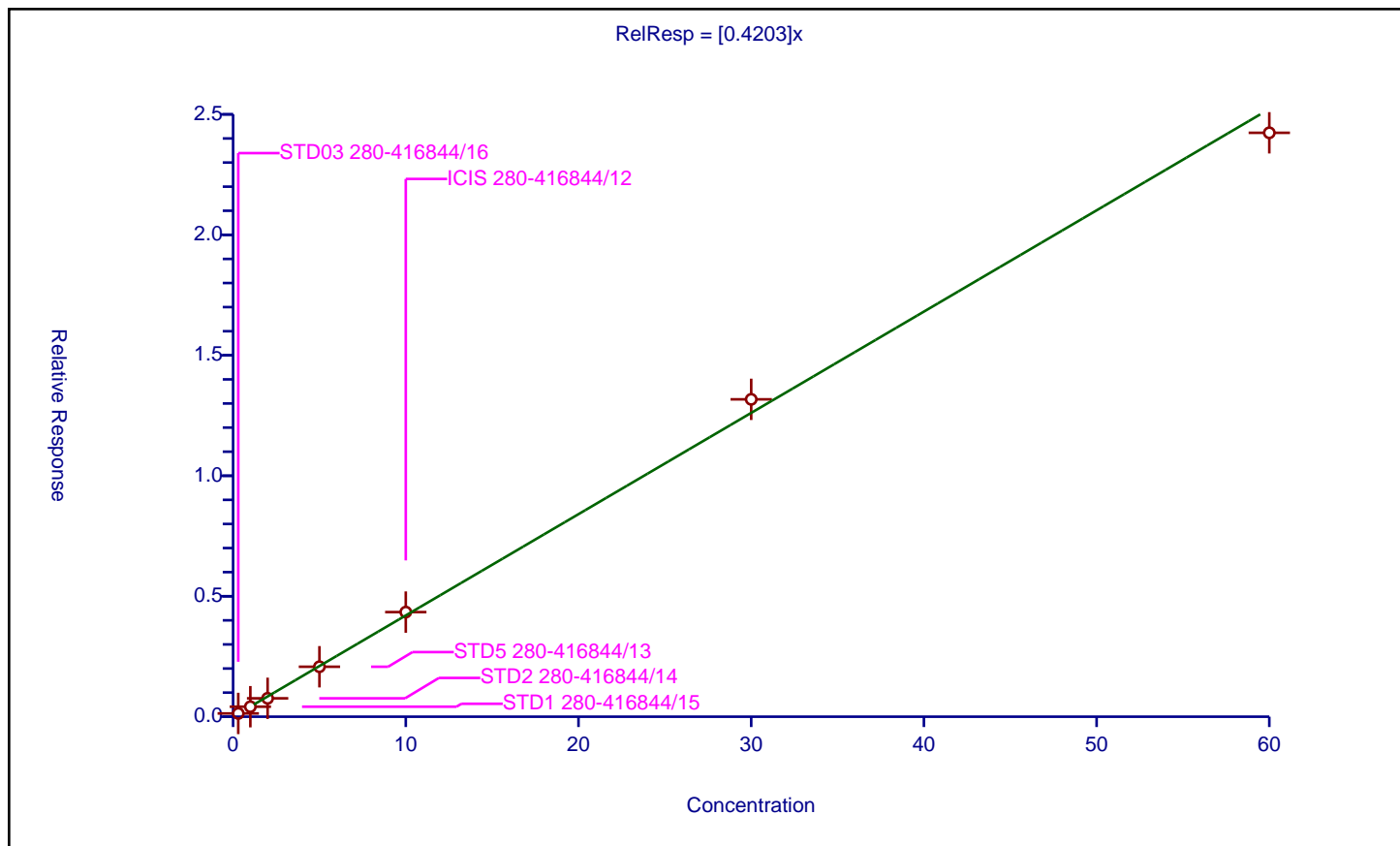
## Curve Coefficients

Intercept: 0  
 Slope: 0.4203

## Error Coefficients

Standard Error: 929000  
 Relative Standard Error: 5.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.135996	12.5	1034682.0	0.45332	Y
2	STD1 280-416844/15	1.0	0.415272	12.5	1019333.0	0.415272	Y
3	STD2 280-416844/14	2.0	0.763462	12.5	1080358.0	0.381731	Y
4	STD5 280-416844/13	5.0	2.074021	12.5	1050580.0	0.414804	Y
5	ICIS 280-416844/12	10.0	4.342382	12.5	1075720.0	0.434238	Y
6	STD30 280-416844/11	30.0	13.172057	12.5	984385.0	0.439069	Y
7	STD60 280-416844/10	60.0	24.234794	12.5	1022372.0	0.403913	Y





# Calibration

/ Chloromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

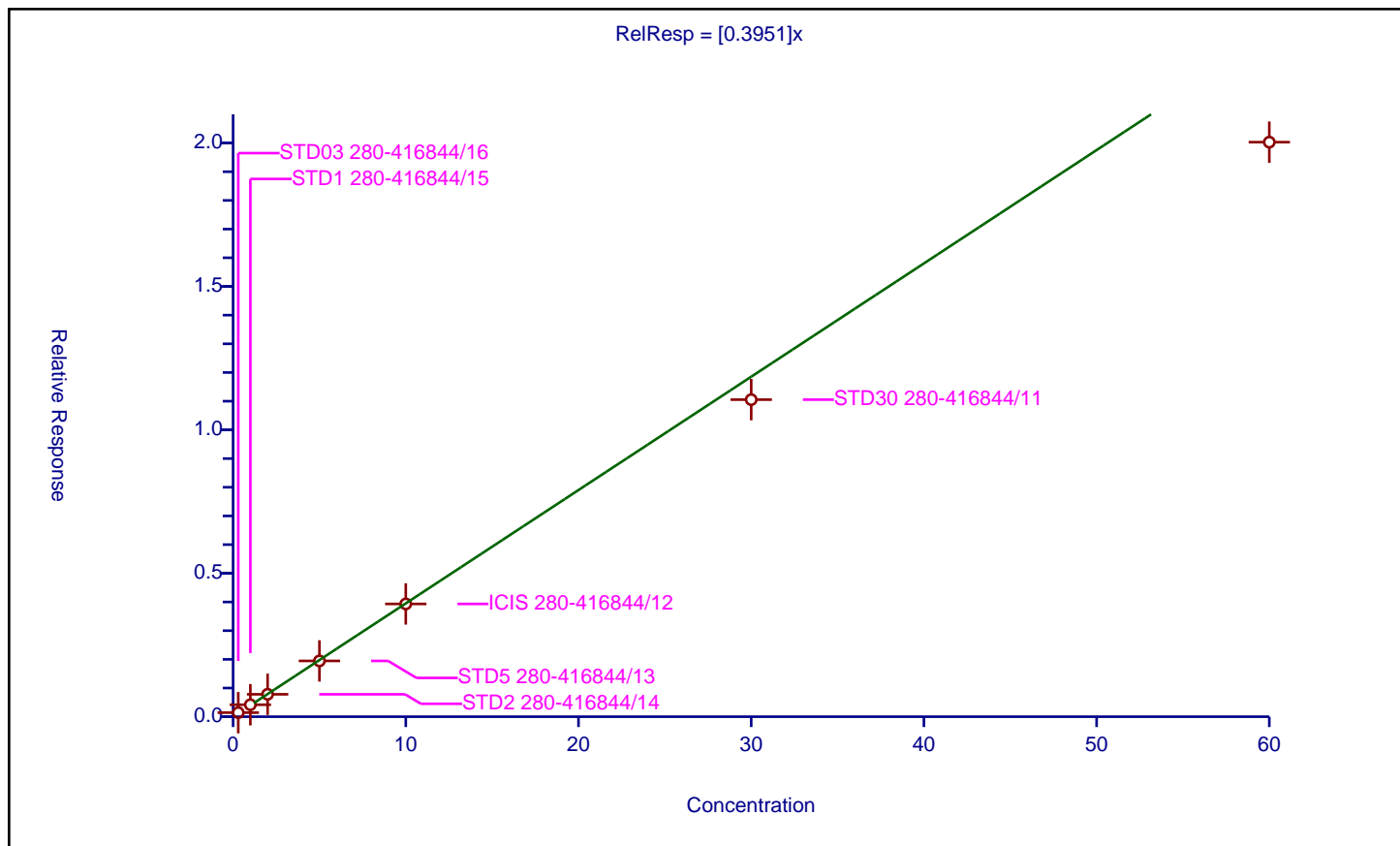
## Curve Coefficients

Intercept: 0  
 Slope: 0.3951

## Error Coefficients

Standard Error: 773000  
 Relative Standard Error: 10.8  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.14165	12.5	1034682.0	0.472166	Y
2	STD1 280-416844/15	1.0	0.417994	12.5	1019333.0	0.417994	Y
3	STD2 280-416844/14	2.0	0.781616	12.5	1080358.0	0.390808	Y
4	STD5 280-416844/13	5.0	1.945604	12.5	1050580.0	0.389121	Y
5	ICIS 280-416844/12	10.0	3.932378	12.5	1075720.0	0.393238	Y
6	STD30 280-416844/11	30.0	11.054085	12.5	984385.0	0.368469	Y
7	STD60 280-416844/10	60.0	20.030906	12.5	1022372.0	0.333848	Y





## Calibration

/ Vinyl chloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

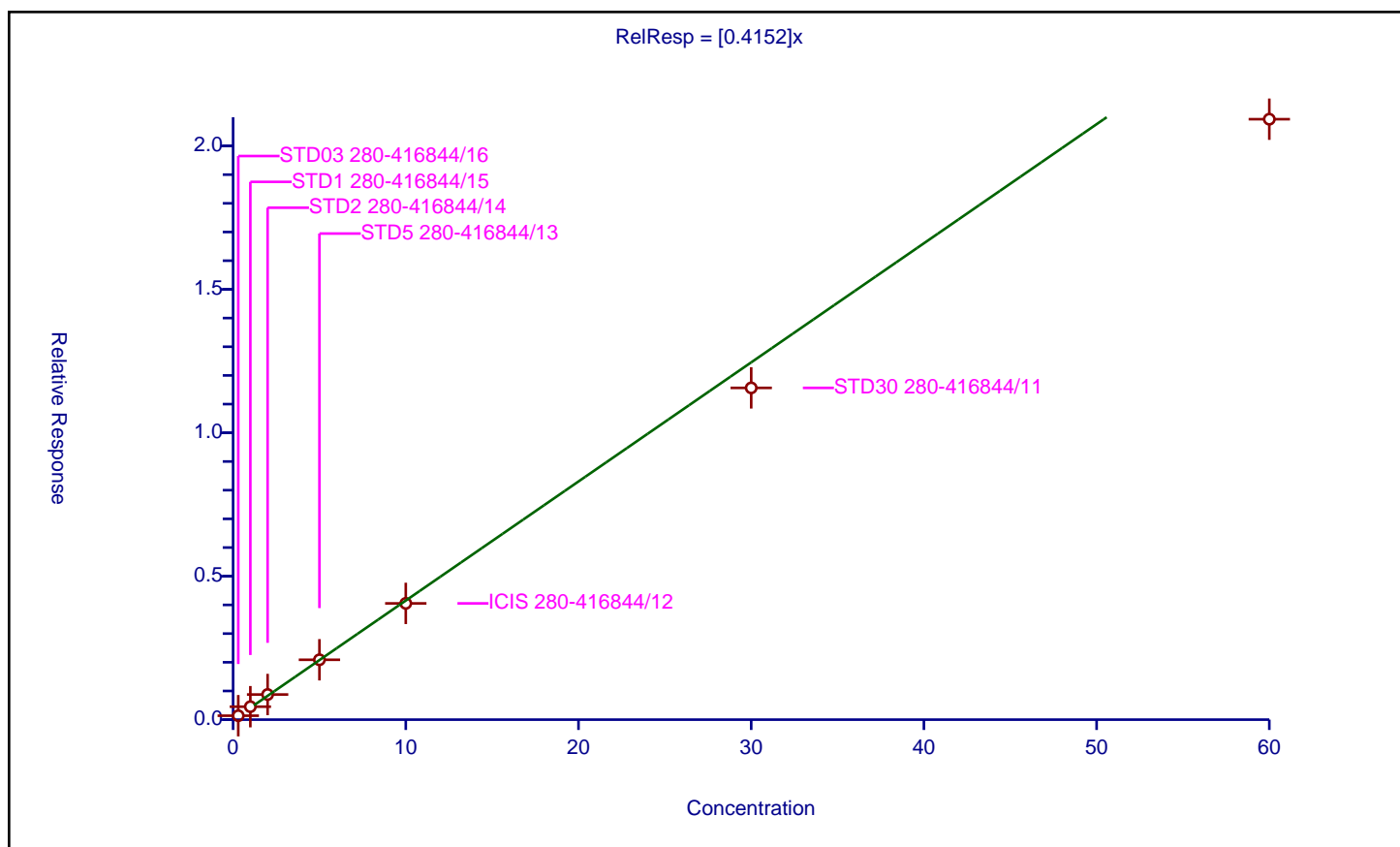
### Curve Coefficients

Intercept: 0  
 Slope: 0.4152

### Error Coefficients

Standard Error: 808000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.137639	12.5	1034682.0	0.458796	Y
2	STD1 280-416844/15	1.0	0.452244	12.5	1019333.0	0.452244	Y
3	STD2 280-416844/14	2.0	0.875844	12.5	1080358.0	0.437922	Y
4	STD5 280-416844/13	5.0	2.087466	12.5	1050580.0	0.417493	Y
5	ICIS 280-416844/12	10.0	4.053099	12.5	1075720.0	0.40531	Y
6	STD30 280-416844/11	30.0	11.565406	12.5	984385.0	0.385514	Y
7	STD60 280-416844/10	60.0	20.93284	12.5	1022372.0	0.348881	Y





# Calibration

/ Bromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

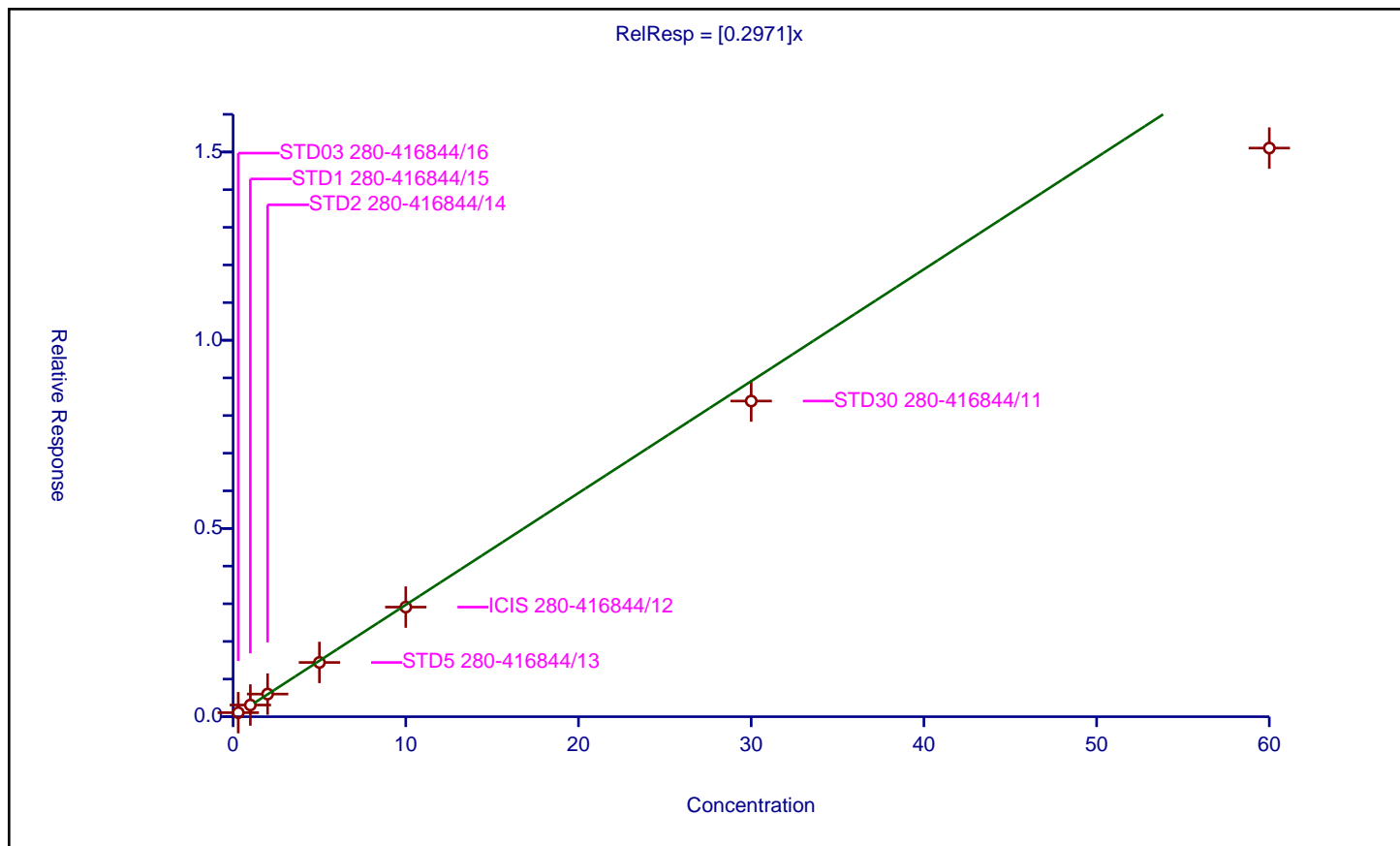
## Curve Coefficients

Intercept: 0  
 Slope: 0.2971

## Error Coefficients

Standard Error: 584000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.107291	12.5	1034682.0	0.357638	Y
2	STD1 280-416844/15	1.0	0.310595	12.5	1019333.0	0.310595	Y
3	STD2 280-416844/14	2.0	0.601757	12.5	1080358.0	0.300878	Y
4	STD5 280-416844/13	5.0	1.441382	12.5	1050580.0	0.288276	Y
5	ICIS 280-416844/12	10.0	2.91155	12.5	1075720.0	0.291155	Y
6	STD30 280-416844/11	30.0	8.385172	12.5	984385.0	0.279506	Y
7	STD60 280-416844/10	60.0	15.104764	12.5	1022372.0	0.251746	Y





# Calibration

/ Chloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

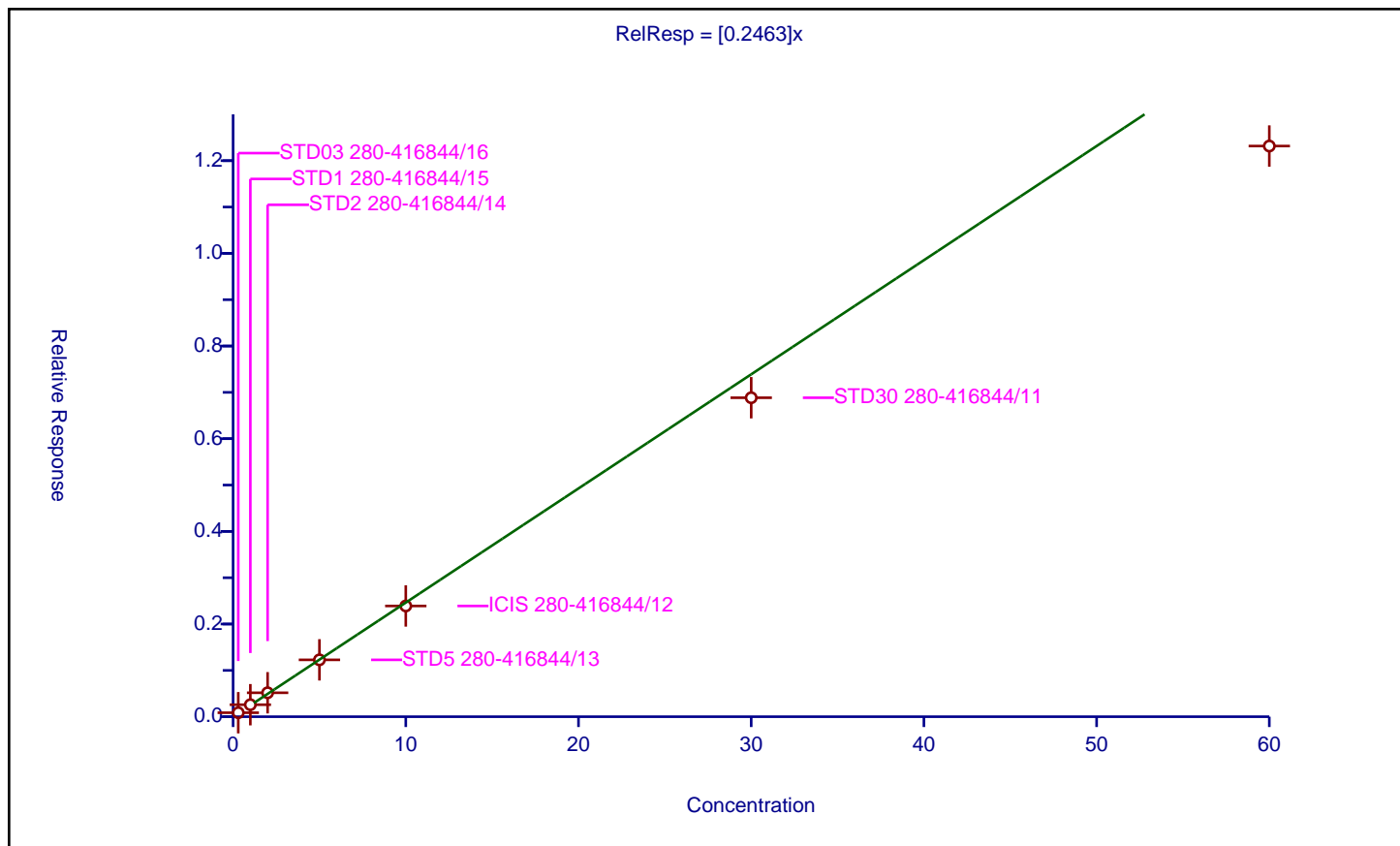
## Curve Coefficients

Intercept: 0  
 Slope: 0.2463

## Error Coefficients

Standard Error: 477000  
 Relative Standard Error: 10.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.086307	12.5	1034682.0	0.287689	Y
2	STD1 280-416844/15	1.0	0.259005	12.5	1019333.0	0.259005	Y
3	STD2 280-416844/14	2.0	0.516657	12.5	1080358.0	0.258329	Y
4	STD5 280-416844/13	5.0	1.227298	12.5	1050580.0	0.24546	Y
5	ICIS 280-416844/12	10.0	2.390167	12.5	1075720.0	0.239017	Y
6	STD30 280-416844/11	30.0	6.884171	12.5	984385.0	0.229472	Y
7	STD60 280-416844/10	60.0	12.316371	12.5	1022372.0	0.205273	Y





## Calibration

/ Dichlorofluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

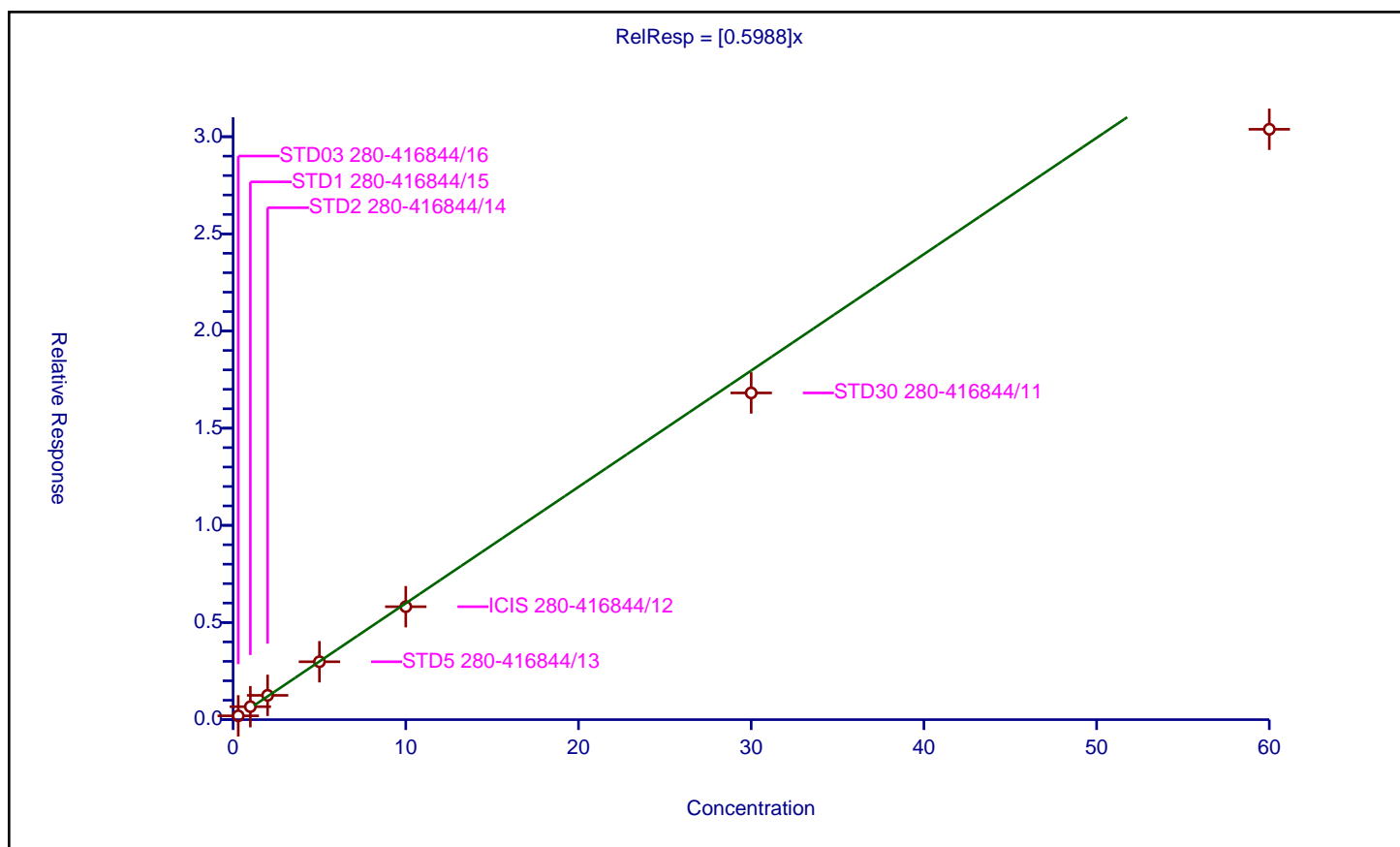
### Curve Coefficients

Intercept: 0  
 Slope: 0.5988

### Error Coefficients

Standard Error: 1170000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.196111	12.5	1034682.0	0.653703	Y
2	STD1 280-416844/15	1.0	0.668832	12.5	1019333.0	0.668832	Y
3	STD2 280-416844/14	2.0	1.2505	12.5	1080358.0	0.62525	Y
4	STD5 280-416844/13	5.0	2.979414	12.5	1050580.0	0.595883	Y
5	ICIS 280-416844/12	10.0	5.812735	12.5	1075720.0	0.581273	Y
6	STD30 280-416844/11	30.0	16.813975	12.5	984385.0	0.560466	Y
7	STD60 280-416844/10	60.0	30.382728	12.5	1022372.0	0.506379	Y





# Calibration

/ Trichlorofluoromethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

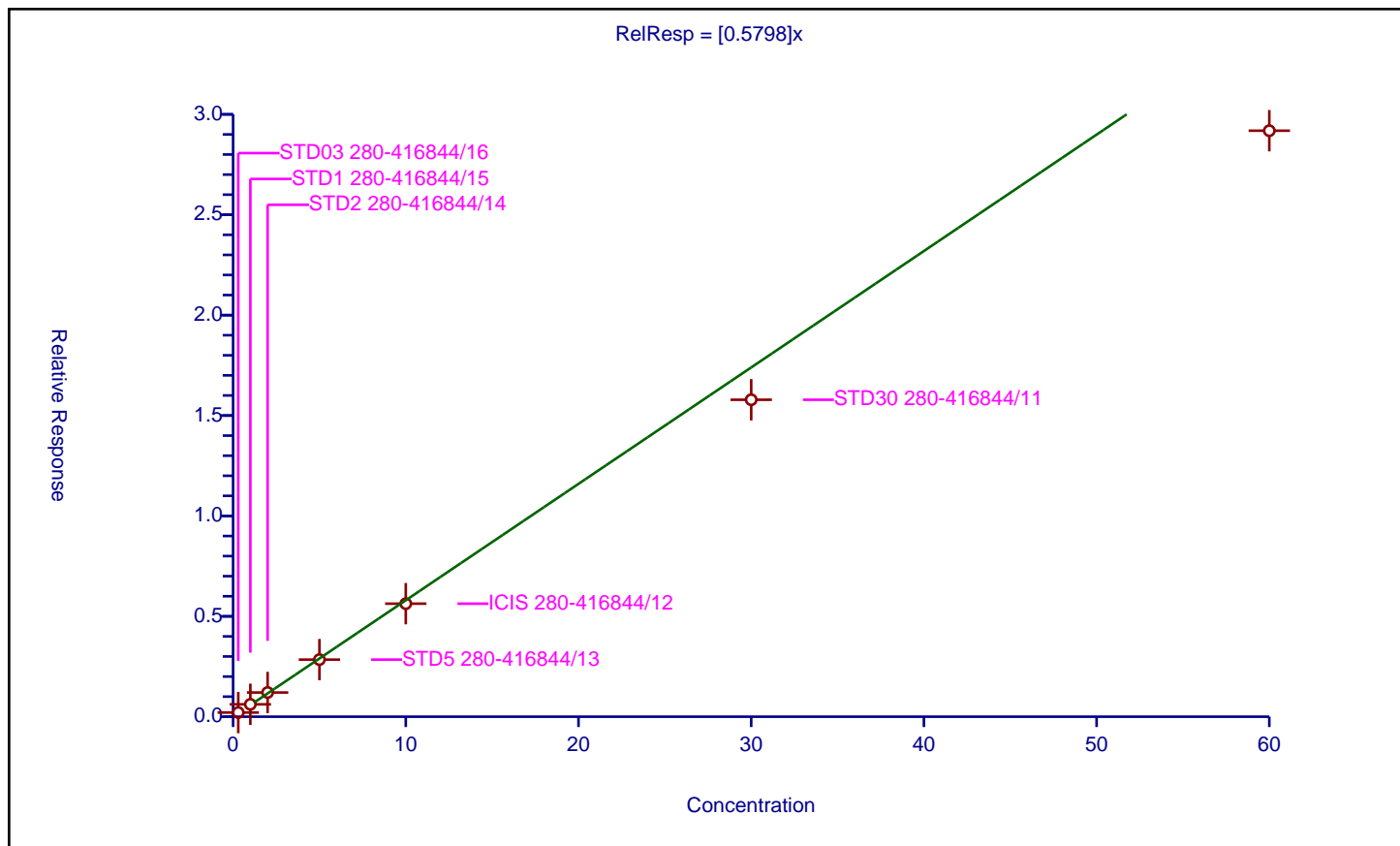
## Curve Coefficients

Intercept: 0  
 Slope: 0.5798

## Error Coefficients

Standard Error: 1120000  
 Relative Standard Error: 11.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.208397	12.5	1034682.0	0.694658	Y
2	STD1 280-416844/15	1.0	0.616911	12.5	1019333.0	0.616911	Y
3	STD2 280-416844/14	2.0	1.205492	12.5	1080358.0	0.602746	Y
4	STD5 280-416844/13	5.0	2.844131	12.5	1050580.0	0.568826	Y
5	ICIS 280-416844/12	10.0	5.630496	12.5	1075720.0	0.56305	Y
6	STD30 280-416844/11	30.0	15.786646	12.5	984385.0	0.526222	Y
7	STD60 280-416844/10	60.0	29.185353	12.5	1022372.0	0.486423	Y





## Calibration

/ Ethyl ether

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

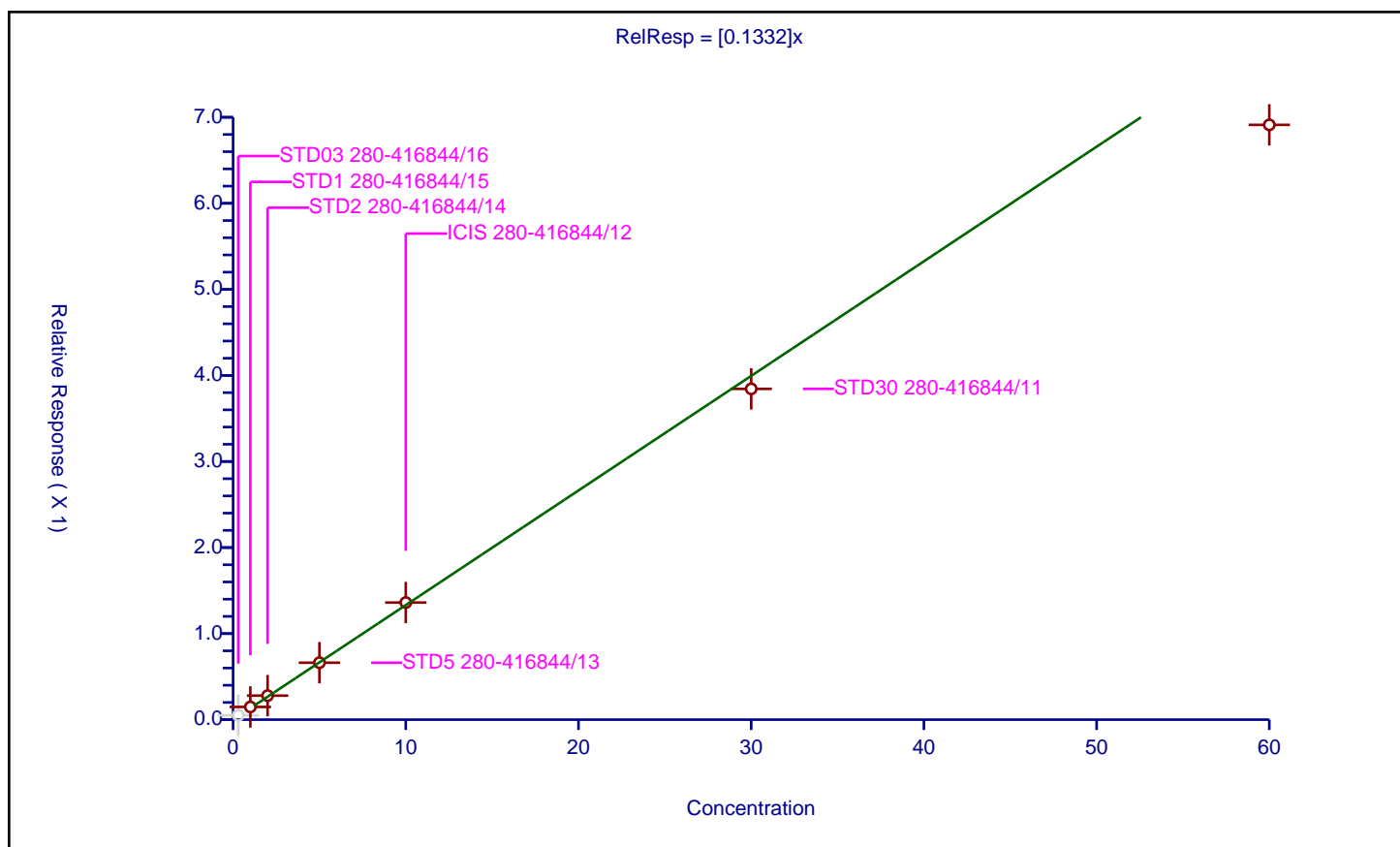
### Curve Coefficients

Intercept: 0  
 Slope: 0.1332

### Error Coefficients

Standard Error: 293000  
 Relative Standard Error: 8.3  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.049895	12.5	1034682.0	0.166315	N
2	STD1 280-416844/15	1.0	0.147682	12.5	1019333.0	0.147682	Y
3	STD2 280-416844/14	2.0	0.279028	12.5	1080358.0	0.139514	Y
4	STD5 280-416844/13	5.0	0.661765	12.5	1050580.0	0.132353	Y
5	ICIS 280-416844/12	10.0	1.36074	12.5	1075720.0	0.136074	Y
6	STD30 280-416844/11	30.0	3.843936	12.5	984385.0	0.128131	Y
7	STD60 280-416844/10	60.0	6.91199	12.5	1022372.0	0.1152	Y





## Calibration

/ Acrolein

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

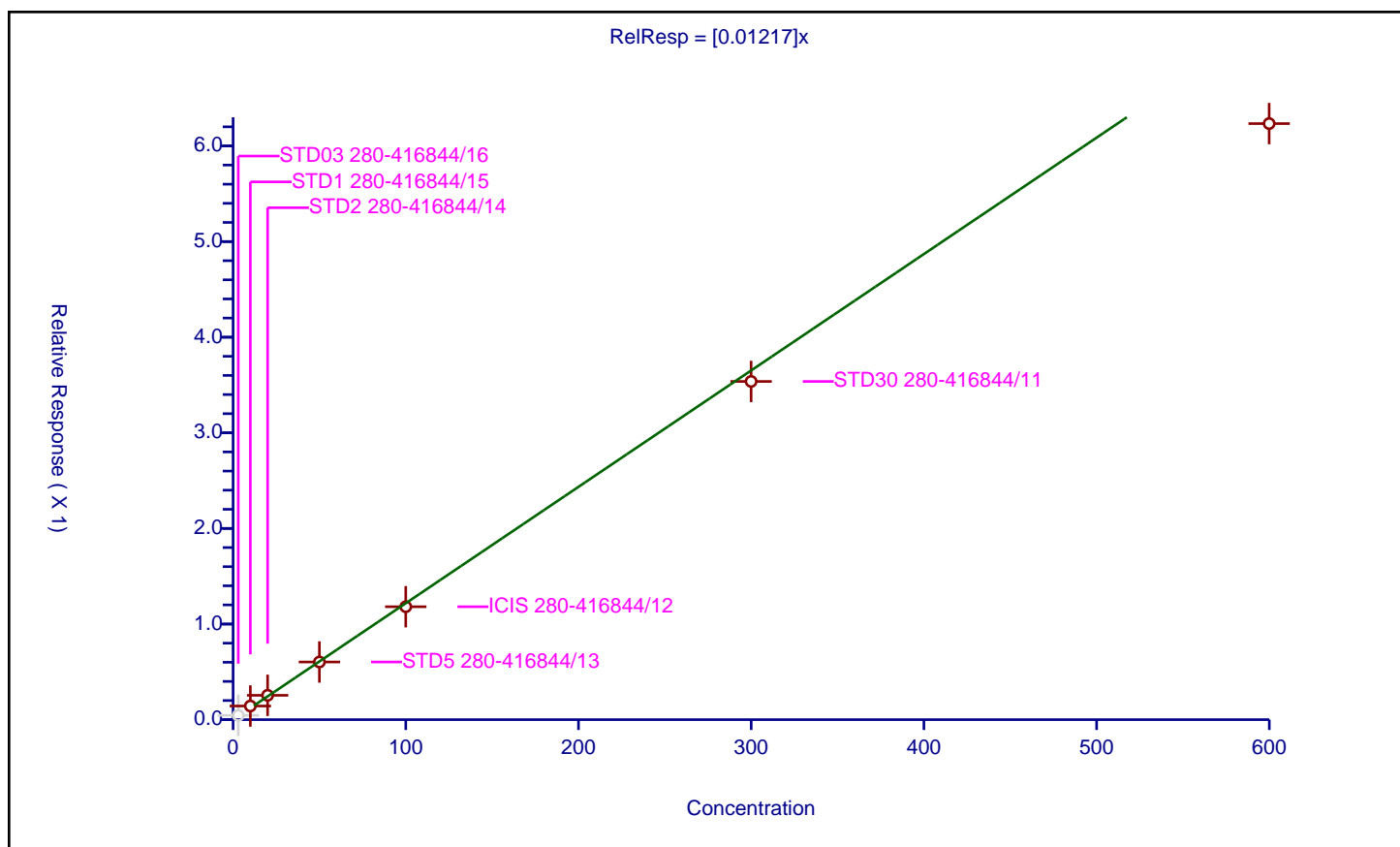
## Curve Coefficients

Intercept: 0  
Slope: 0.01217

## Error Coefficients

Standard Error: 265000  
Relative Standard Error: 10.5  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	2.999531	0.04499	12.5	1034682.0	0.014999	N
2	STD1 280-416844/15	9.998438	0.14263	12.5	1019333.0	0.014265	Y
3	STD2 280-416844/14	19.996875	0.254383	12.5	1080358.0	0.012721	Y
4	STD5 280-416844/13	49.992188	0.602953	12.5	1050580.0	0.012061	Y
5	ICIS 280-416844/12	99.984375	1.180907	12.5	1075720.0	0.011811	Y
6	STD30 280-416844/11	299.953125	3.537056	12.5	984385.0	0.011792	Y
7	STD60 280-416844/10	599.90625	6.233934	12.5	1022372.0	0.010392	Y





# Calibration

/ 1,1,2-Trichloro-1,2,2-trifluoroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

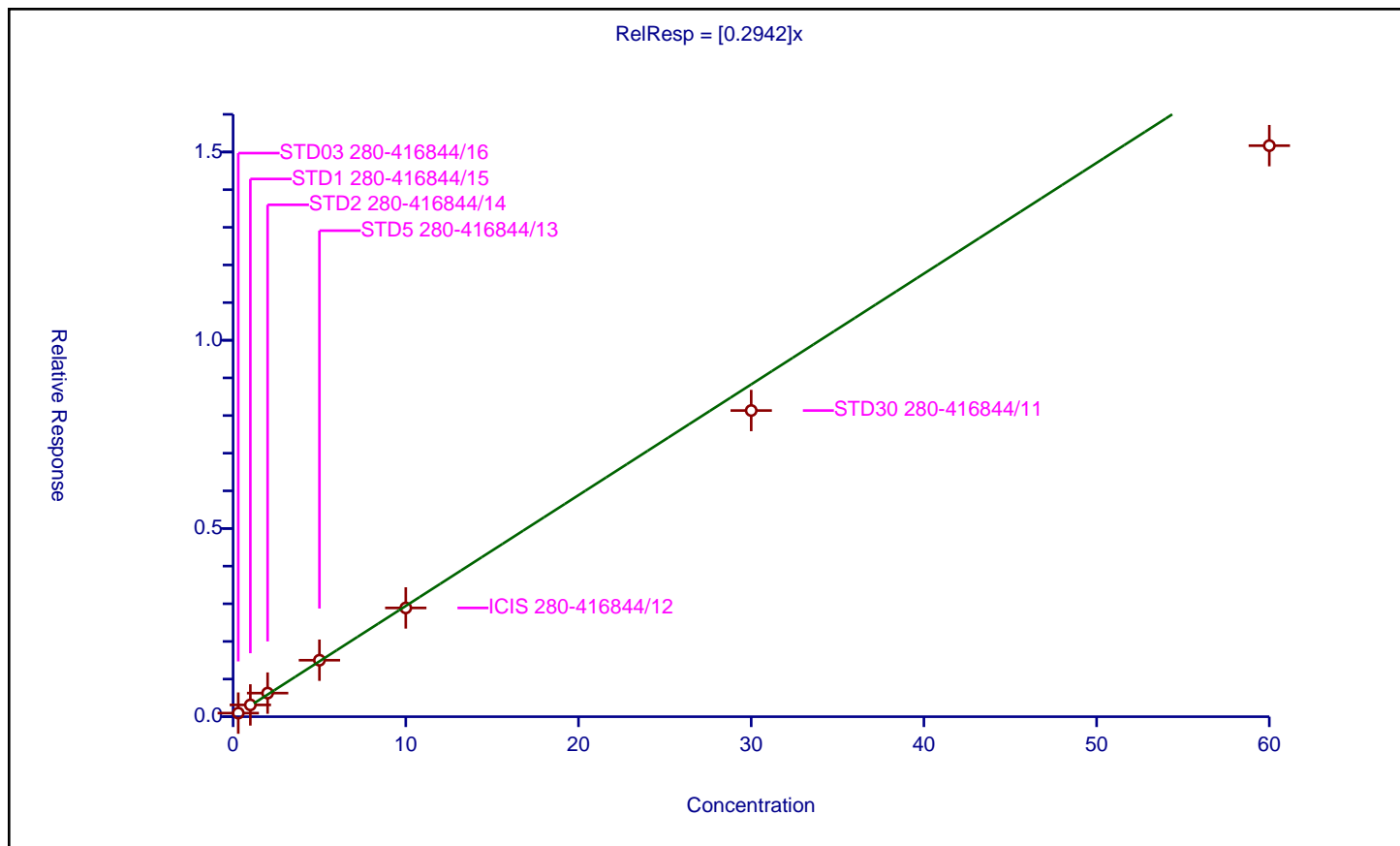
## Curve Coefficients

Intercept: 0  
 Slope: 0.2942

## Error Coefficients

Standard Error: 582000  
 Relative Standard Error: 8.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.095766	12.5	1034682.0	0.31922	Y
2	STD1 280-416844/15	1.0	0.313624	12.5	1019333.0	0.313624	Y
3	STD2 280-416844/14	2.0	0.62728	12.5	1080358.0	0.31364	Y
4	STD5 280-416844/13	5.0	1.501159	12.5	1050580.0	0.300232	Y
5	ICIS 280-416844/12	10.0	2.889727	12.5	1075720.0	0.288973	Y
6	STD30 280-416844/11	30.0	8.133009	12.5	984385.0	0.2711	Y
7	STD60 280-416844/10	60.0	15.168843	12.5	1022372.0	0.252814	Y





## Calibration

/ 1,1-Dichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

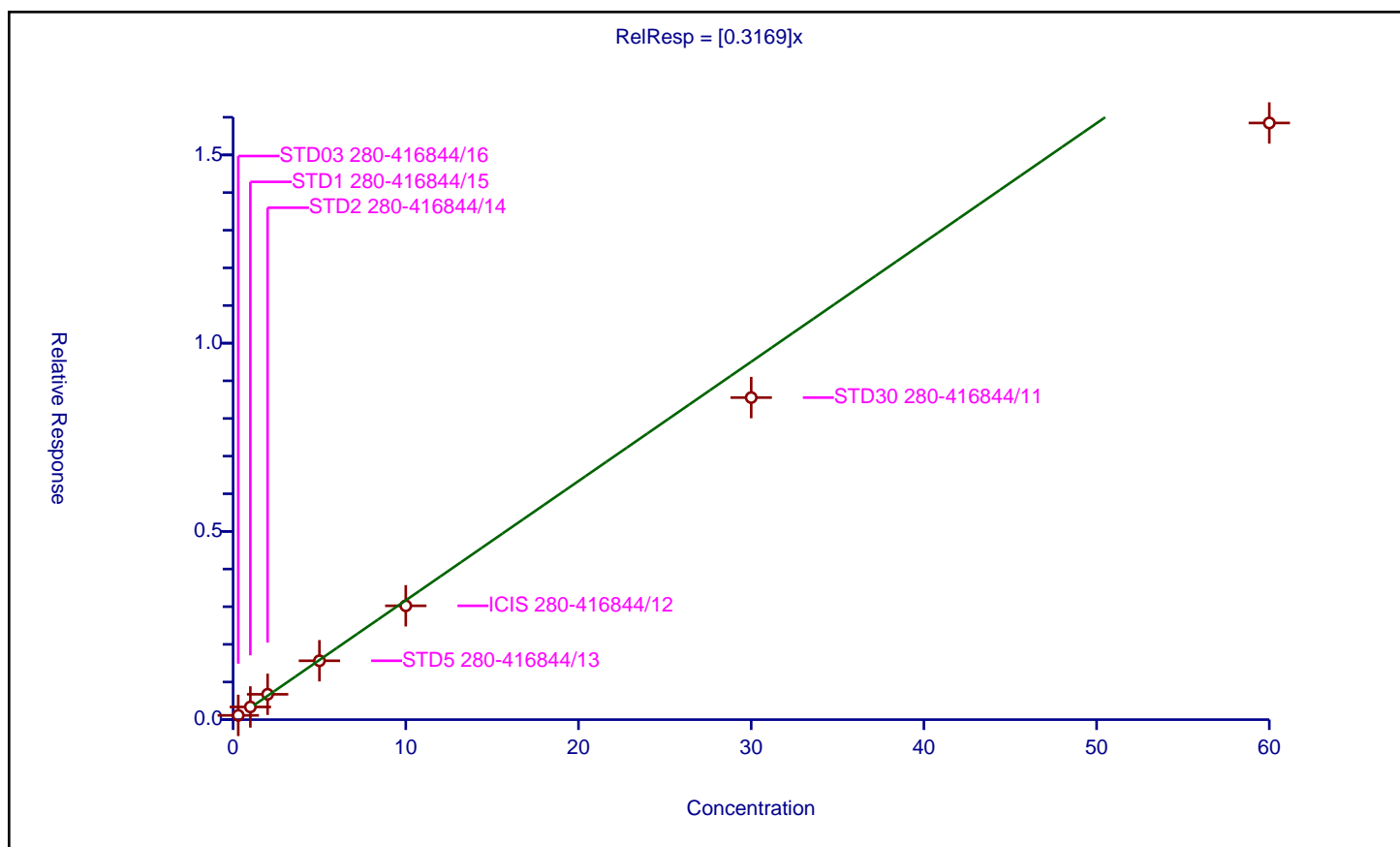
### Curve Coefficients

Intercept: 0  
 Slope: 0.3169

### Error Coefficients

Standard Error: 609000  
 Relative Standard Error: 12.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.113779	12.5	1034682.0	0.379263	Y
2	STD1 280-416844/15	1.0	0.337316	12.5	1019333.0	0.337316	Y
3	STD2 280-416844/14	2.0	0.673666	12.5	1080358.0	0.336833	Y
4	STD5 280-416844/13	5.0	1.564314	12.5	1050580.0	0.312863	Y
5	ICIS 280-416844/12	10.0	3.02437	12.5	1075720.0	0.302437	Y
6	STD30 280-416844/11	30.0	8.554796	12.5	984385.0	0.28516	Y
7	STD60 280-416844/10	60.0	15.848769	12.5	1022372.0	0.264146	Y





# Calibration

/ Acetone

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

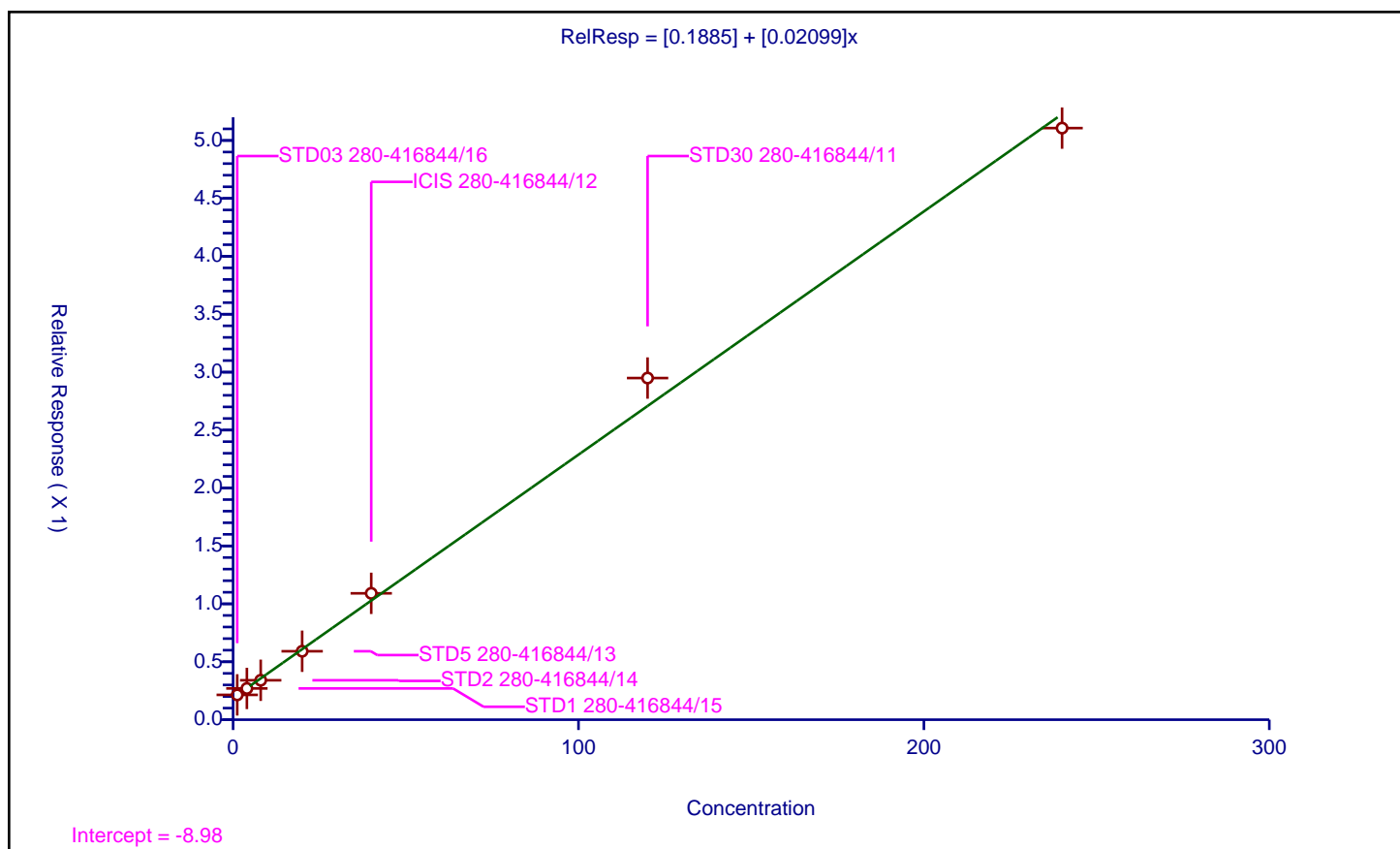
## Curve Coefficients

Intercept: 0.1885  
 Slope: 0.02099

## Error Coefficients

Standard Error: 220000  
 Relative Standard Error: 7.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.214293	12.5	1034682.0	0.178577	Y
2	STD1 280-416844/15	4.0	0.269747	12.5	1019333.0	0.067437	Y
3	STD2 280-416844/14	8.0	0.340431	12.5	1080358.0	0.042554	Y
4	STD5 280-416844/13	20.0	0.590793	12.5	1050580.0	0.02954	Y
5	ICIS 280-416844/12	40.0	1.090711	12.5	1075720.0	0.027268	Y
6	STD30 280-416844/11	120.0	2.949202	12.5	984385.0	0.024577	Y
7	STD60 280-416844/10	240.0	5.106642	12.5	1022372.0	0.021278	Y





# Calibration

/ Iodomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

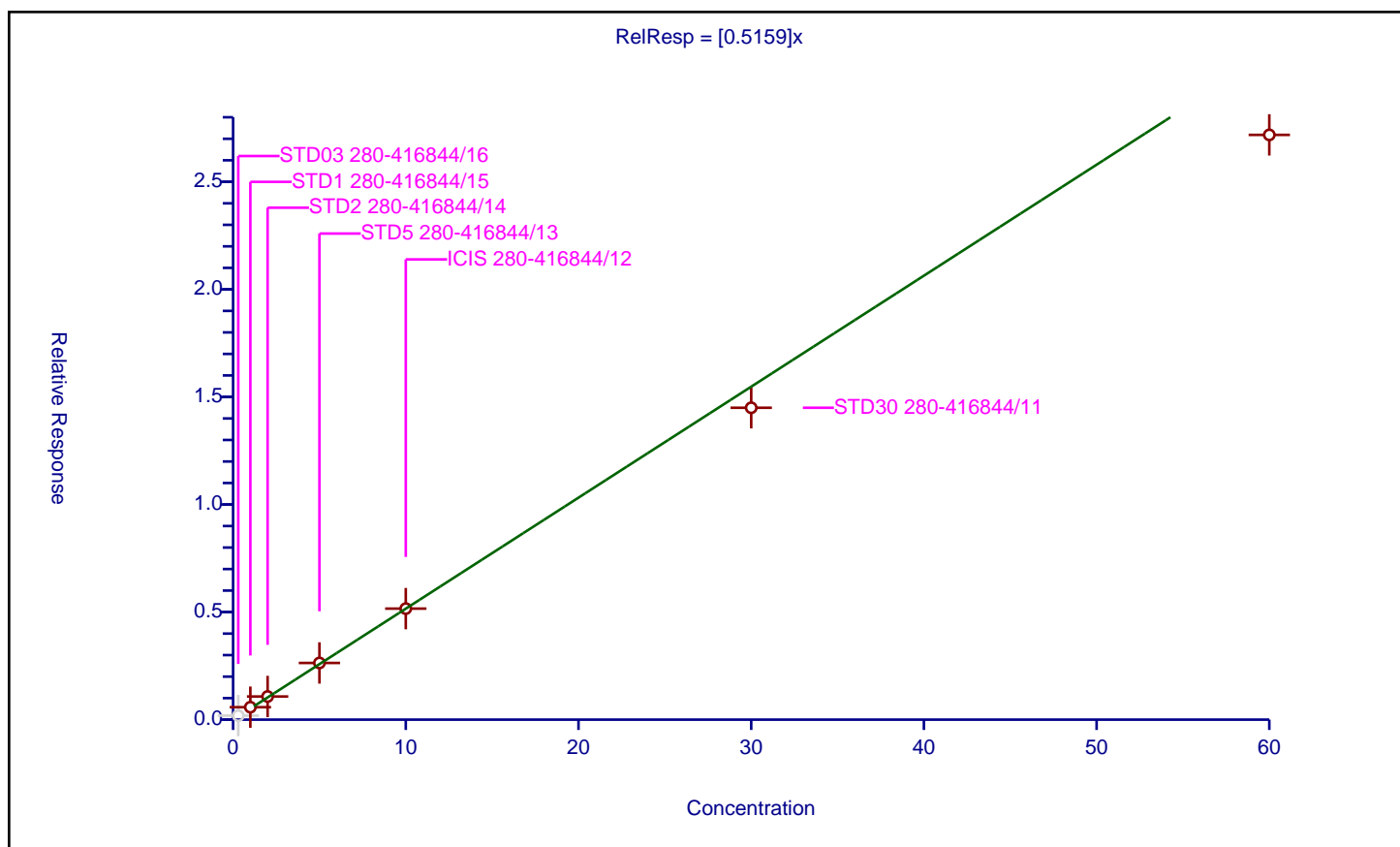
## Curve Coefficients

Intercept: 0  
 Slope: 0.5159

## Error Coefficients

Standard Error: 1140000  
 Relative Standard Error: 8.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.186446	12.5	1034682.0	0.621487	N
2	STD1 280-416844/15	1.0	0.578111	12.5	1019333.0	0.578111	Y
3	STD2 280-416844/14	2.0	1.075847	12.5	1080358.0	0.537924	Y
4	STD5 280-416844/13	5.0	2.635389	12.5	1050580.0	0.527078	Y
5	ICIS 280-416844/12	10.0	5.160869	12.5	1075720.0	0.516087	Y
6	STD30 280-416844/11	30.0	14.497008	12.5	984385.0	0.483234	Y
7	STD60 280-416844/10	60.0	27.181801	12.5	1022372.0	0.45303	Y





# Calibration

/ Methyl acetate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

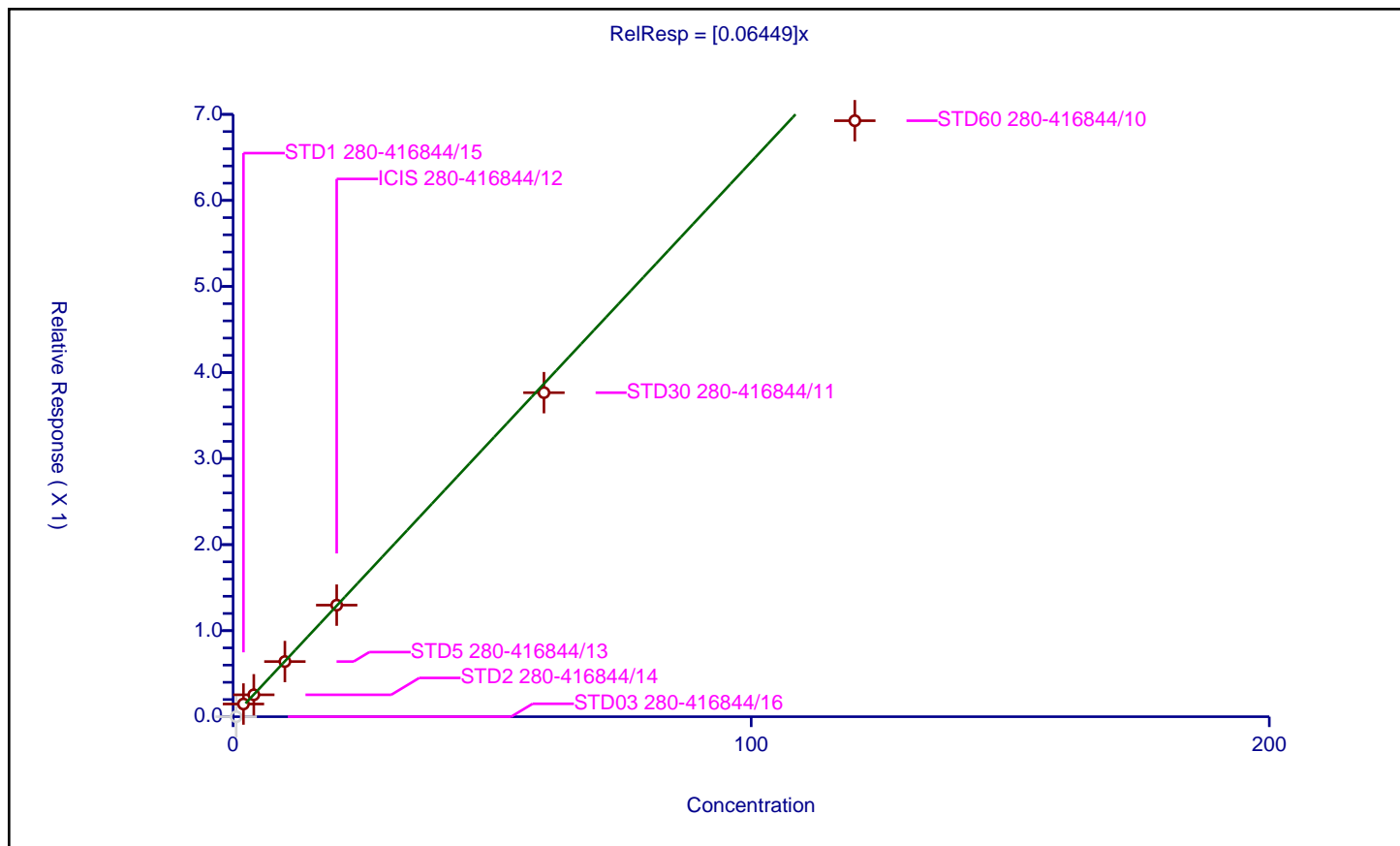
## Curve Coefficients

Intercept: 0  
 Slope: 0.06449

## Error Coefficients

Standard Error: 291000  
 Relative Standard Error: 8.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.6	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	2.0	0.147597	12.5	1019333.0	0.073798	Y
3	STD2 280-416844/14	4.0	0.254811	12.5	1080358.0	0.063703	Y
4	STD5 280-416844/13	10.0	0.641003	12.5	1050580.0	0.0641	Y
5	ICIS 280-416844/12	20.0	1.29669	12.5	1075720.0	0.064834	Y
6	STD30 280-416844/11	60.0	3.765854	12.5	984385.0	0.062764	Y
7	STD60 280-416844/10	120.0	6.926222	12.5	1022372.0	0.057719	Y





## Calibration

/ Carbon disulfide

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

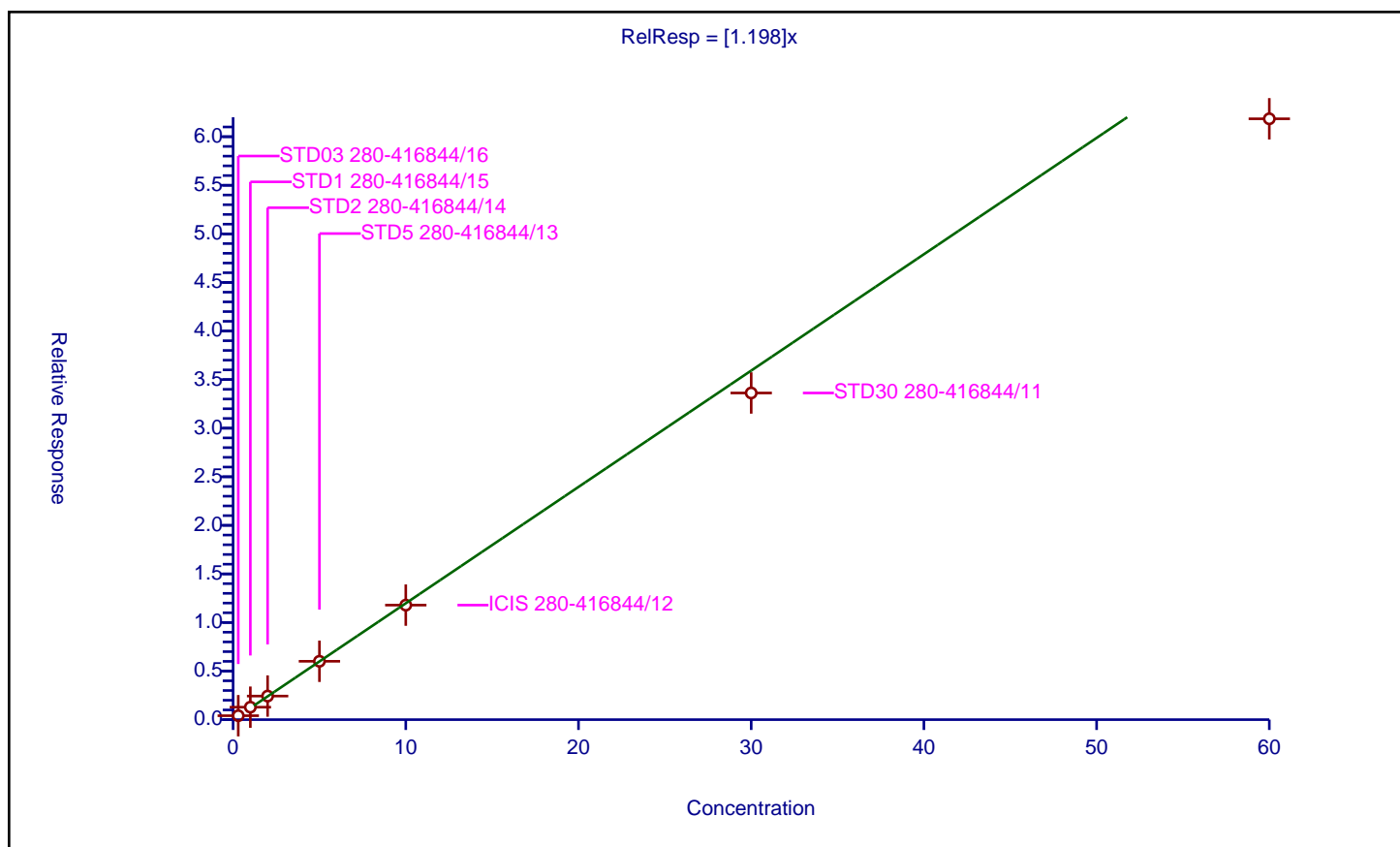
### Curve Coefficients

Intercept: 0  
 Slope: 1.198

### Error Coefficients

Standard Error: 2380000  
 Relative Standard Error: 8.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.406151	12.5	1034682.0	1.353838	Y
2	STD1 280-416844/15	1.0	1.283634	12.5	1019333.0	1.283634	Y
3	STD2 280-416844/14	2.0	2.426869	12.5	1080358.0	1.213435	Y
4	STD5 280-416844/13	5.0	6.007634	12.5	1050580.0	1.201527	Y
5	ICIS 280-416844/12	10.0	11.787593	12.5	1075720.0	1.178759	Y
6	STD30 280-416844/11	30.0	33.62395	12.5	984385.0	1.120798	Y
7	STD60 280-416844/10	60.0	61.844845	12.5	1022372.0	1.030747	Y





## Calibration

/ 3-Chloro-1-propene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

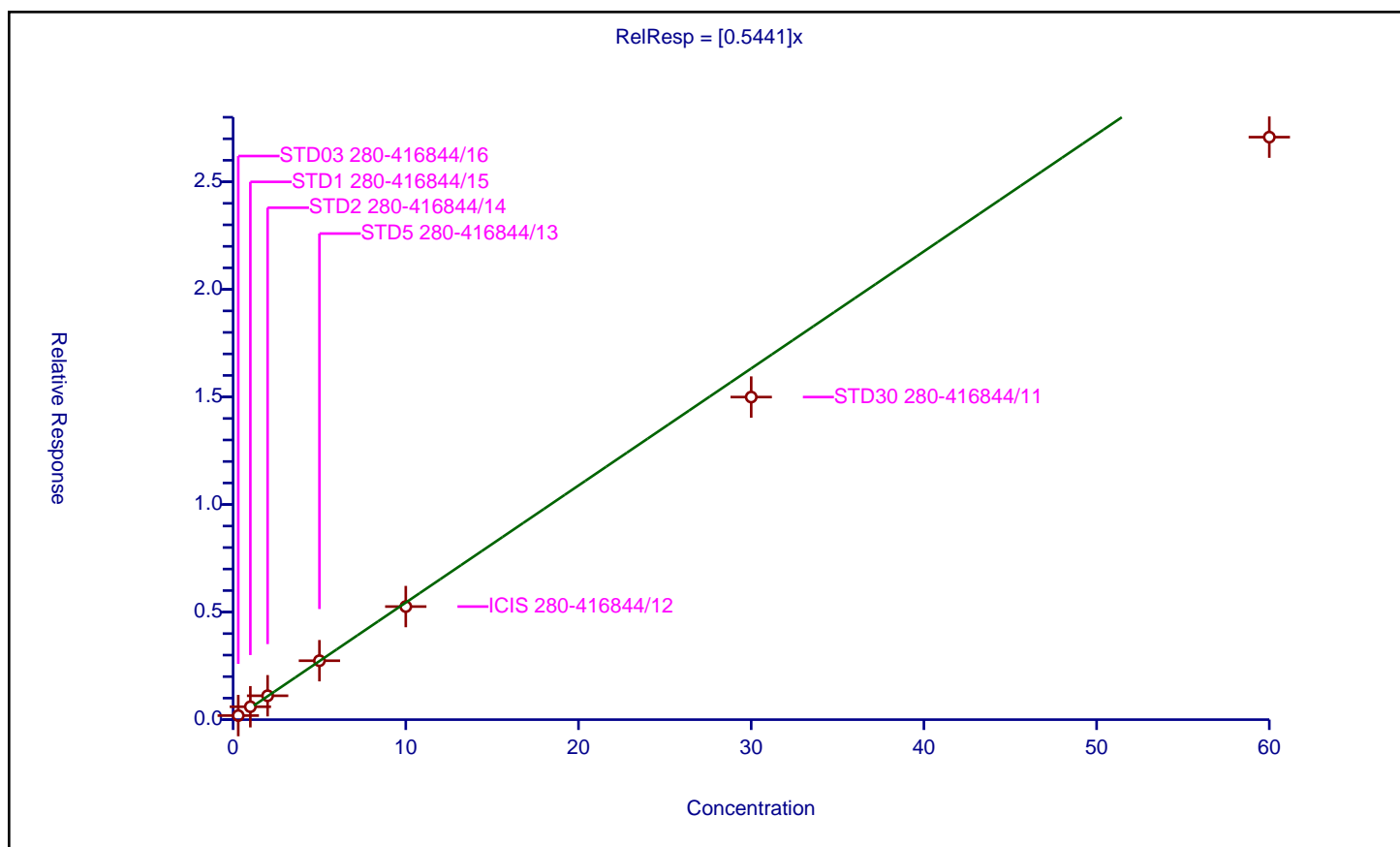
### Curve Coefficients

Intercept: 0  
 Slope: 0.5441

### Error Coefficients

Standard Error: 1050000  
 Relative Standard Error: 11.0  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.188947	12.5	1034682.0	0.629823	Y
2	STD1 280-416844/15	1.0	0.599681	12.5	1019333.0	0.599681	Y
3	STD2 280-416844/14	2.0	1.11006	12.5	1080358.0	0.55503	Y
4	STD5 280-416844/13	5.0	2.738987	12.5	1050580.0	0.547797	Y
5	ICIS 280-416844/12	10.0	5.256003	12.5	1075720.0	0.5256	Y
6	STD30 280-416844/11	30.0	14.994451	12.5	984385.0	0.499815	Y
7	STD60 280-416844/10	60.0	27.077106	12.5	1022372.0	0.451285	Y





## Calibration

/ 2-Methyl-2-propanol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

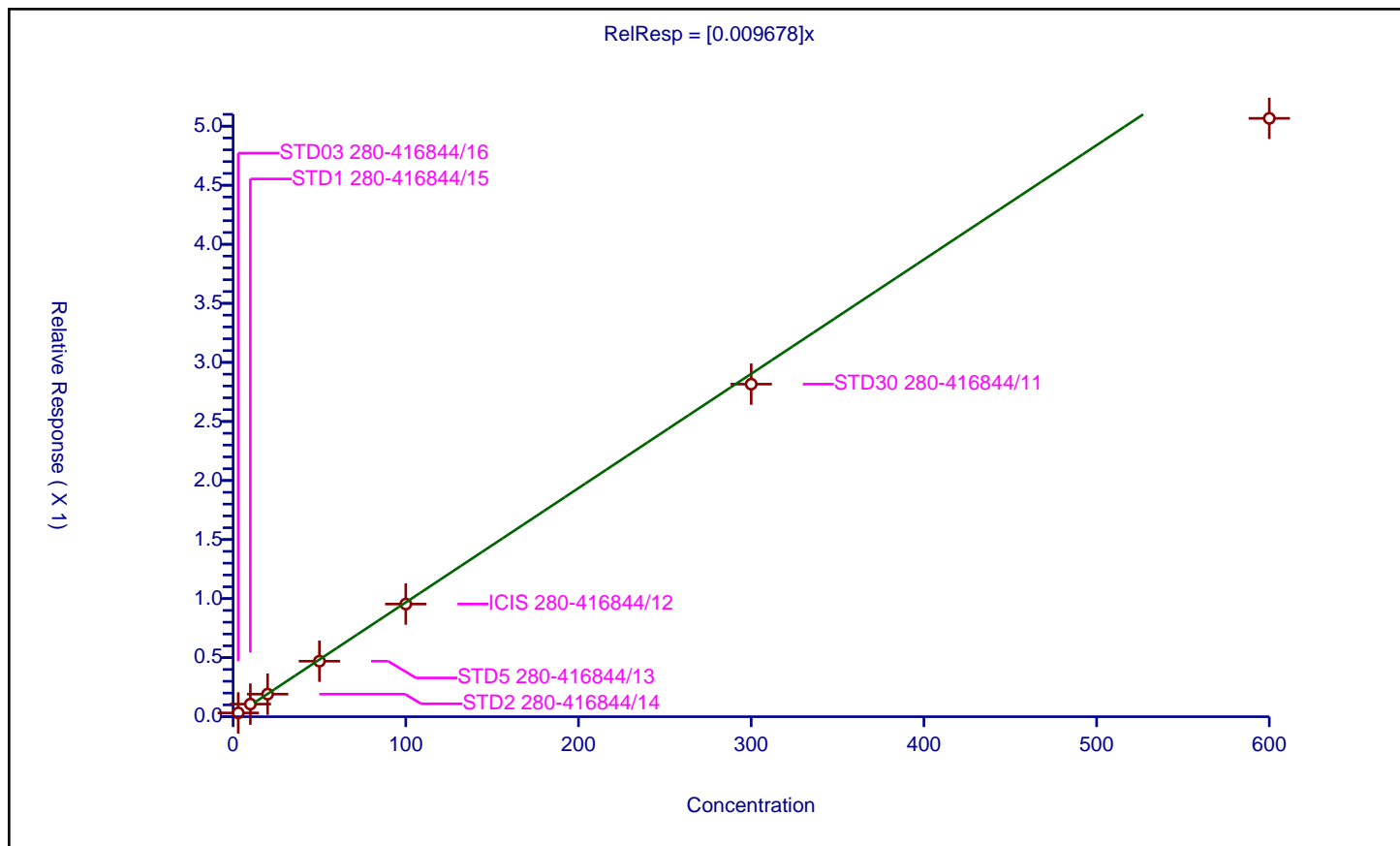
### Curve Coefficients

Intercept: 0  
 Slope: 0.009678

### Error Coefficients

Standard Error: 196000  
 Relative Standard Error: 8.3  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	3.0	0.03216	12.5	1034682.0	0.01072	Y
2	STD1 280-416844/15	10.0	0.106945	12.5	1019333.0	0.010694	Y
3	STD2 280-416844/14	20.0	0.191198	12.5	1080358.0	0.00956	Y
4	STD5 280-416844/13	50.0	0.470097	12.5	1050580.0	0.009402	Y
5	ICIS 280-416844/12	100.0	0.953791	12.5	1075720.0	0.009538	Y
6	STD30 280-416844/11	300.0	2.815895	12.5	984385.0	0.009386	Y
7	STD60 280-416844/10	600.0	5.066294	12.5	1022372.0	0.008444	Y





# Calibration

/ Methylene Chloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

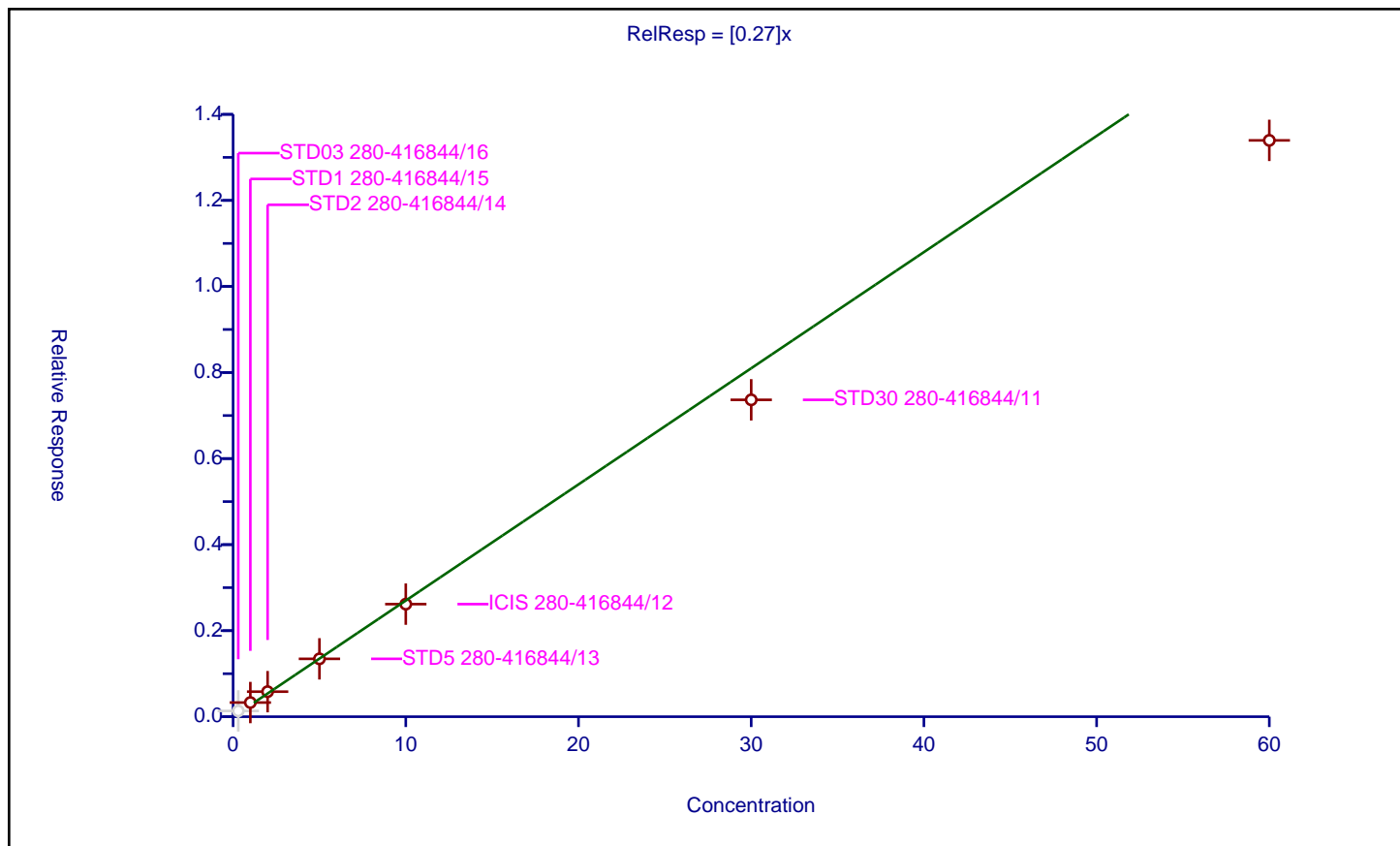
## Curve Coefficients

Intercept: 0  
 Slope: 0.27

## Error Coefficients

Standard Error: 566000  
 Relative Standard Error: 13.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.966

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.134884	12.5	1034682.0	0.449615	N
2	STD1 280-416844/15	1.0	0.329174	12.5	1019333.0	0.329174	Y
3	STD2 280-416844/14	2.0	0.582365	12.5	1080358.0	0.291182	Y
4	STD5 280-416844/13	5.0	1.344864	12.5	1050580.0	0.268973	Y
5	ICIS 280-416844/12	10.0	2.616387	12.5	1075720.0	0.261639	Y
6	STD30 280-416844/11	30.0	7.365005	12.5	984385.0	0.2455	Y
7	STD60 280-416844/10	60.0	13.395674	12.5	1022372.0	0.223261	Y





# Calibration

/ Methyl tert-butyl ether

Curve Type: Linear  
Weighting: Conc\_Sq  
Origin: None  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

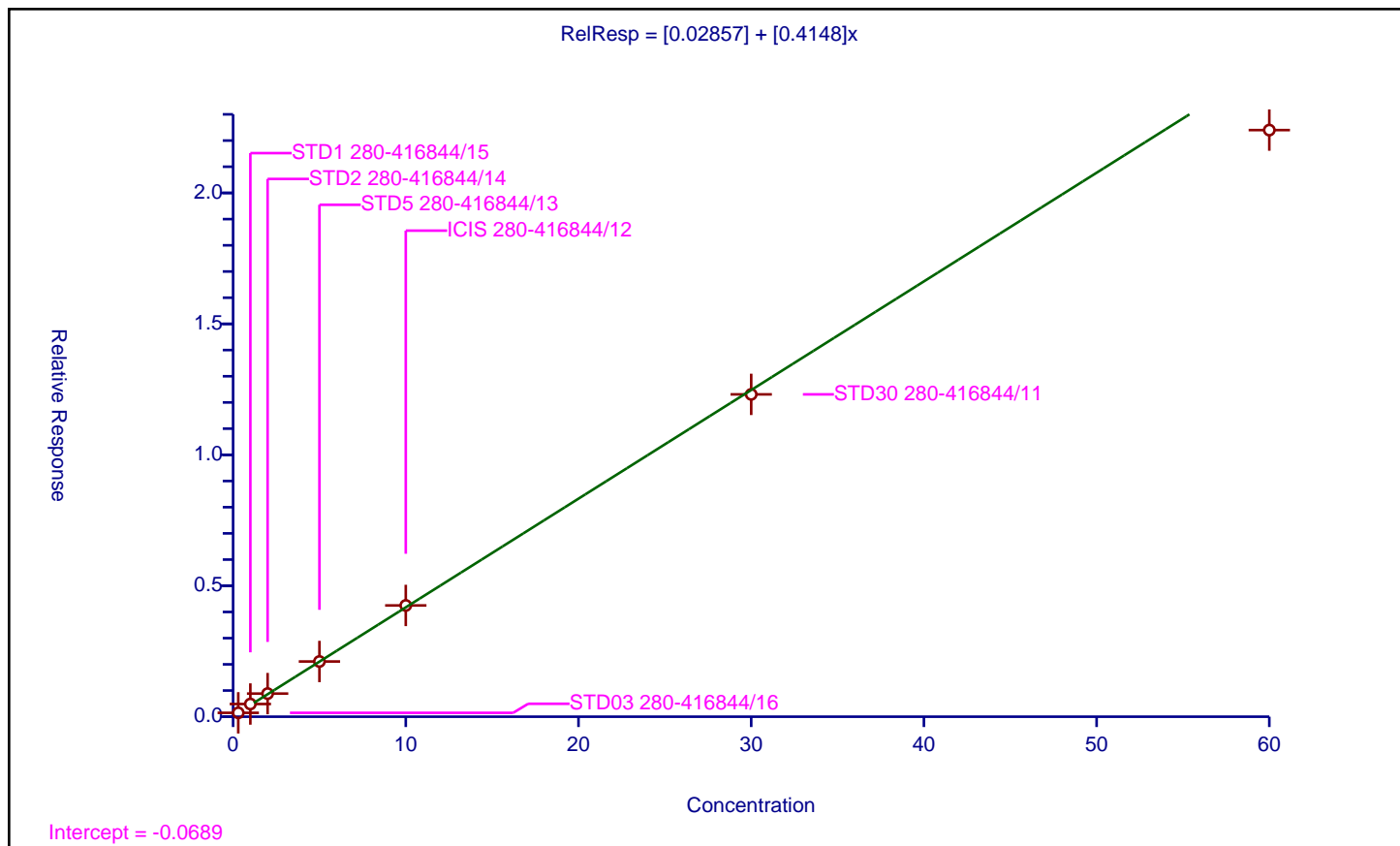
## Curve Coefficients

Intercept: 0.02857  
Slope: 0.4148

## Error Coefficients

Standard Error: 945000  
Relative Standard Error: 6.8  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.148729	12.5	1034682.0	0.495764	Y
2	STD1 280-416844/15	1.0	0.485072	12.5	1019333.0	0.485072	Y
3	STD2 280-416844/14	2.0	0.882173	12.5	1080358.0	0.441086	Y
4	STD5 280-416844/13	5.0	2.1078	12.5	1050580.0	0.42156	Y
5	ICIS 280-416844/12	10.0	4.248736	12.5	1075720.0	0.424874	Y
6	STD30 280-416844/11	30.0	12.308294	12.5	984385.0	0.410276	Y
7	STD60 280-416844/10	60.0	22.399931	12.5	1022372.0	0.373332	Y





## Calibration

/ trans-1,2-Dichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

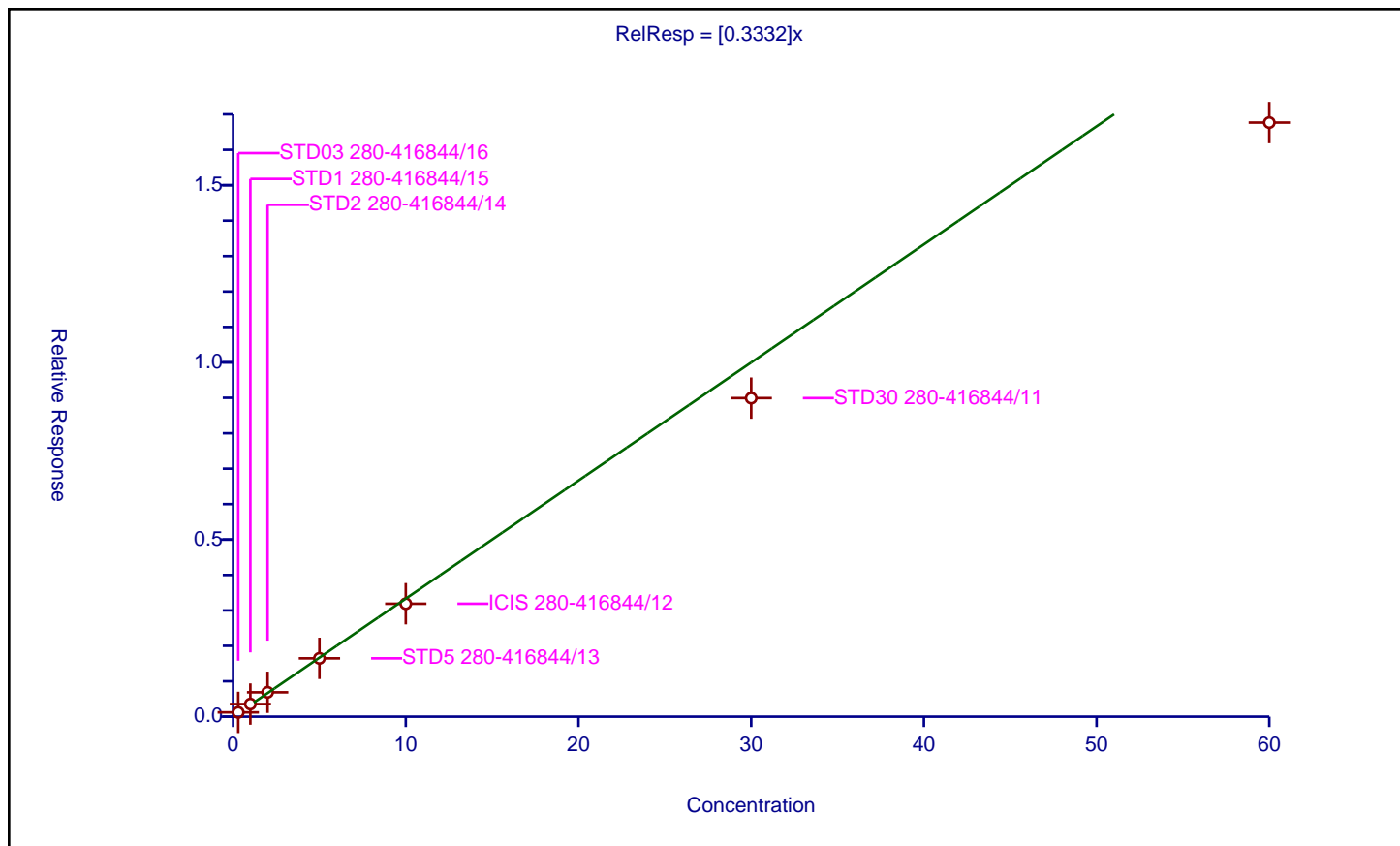
### Curve Coefficients

Intercept: 0  
 Slope: 0.3332

### Error Coefficients

Standard Error: 643000  
 Relative Standard Error: 12.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.121076	12.5	1034682.0	0.403586	Y
2	STD1 280-416844/15	1.0	0.357133	12.5	1019333.0	0.357133	Y
3	STD2 280-416844/14	2.0	0.688985	12.5	1080358.0	0.344492	Y
4	STD5 280-416844/13	5.0	1.647459	12.5	1050580.0	0.329492	Y
5	ICIS 280-416844/12	10.0	3.188725	12.5	1075720.0	0.318872	Y
6	STD30 280-416844/11	30.0	8.991286	12.5	984385.0	0.29971	Y
7	STD60 280-416844/10	60.0	16.76749	12.5	1022372.0	0.279458	Y





# Calibration

/ Acrylonitrile

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

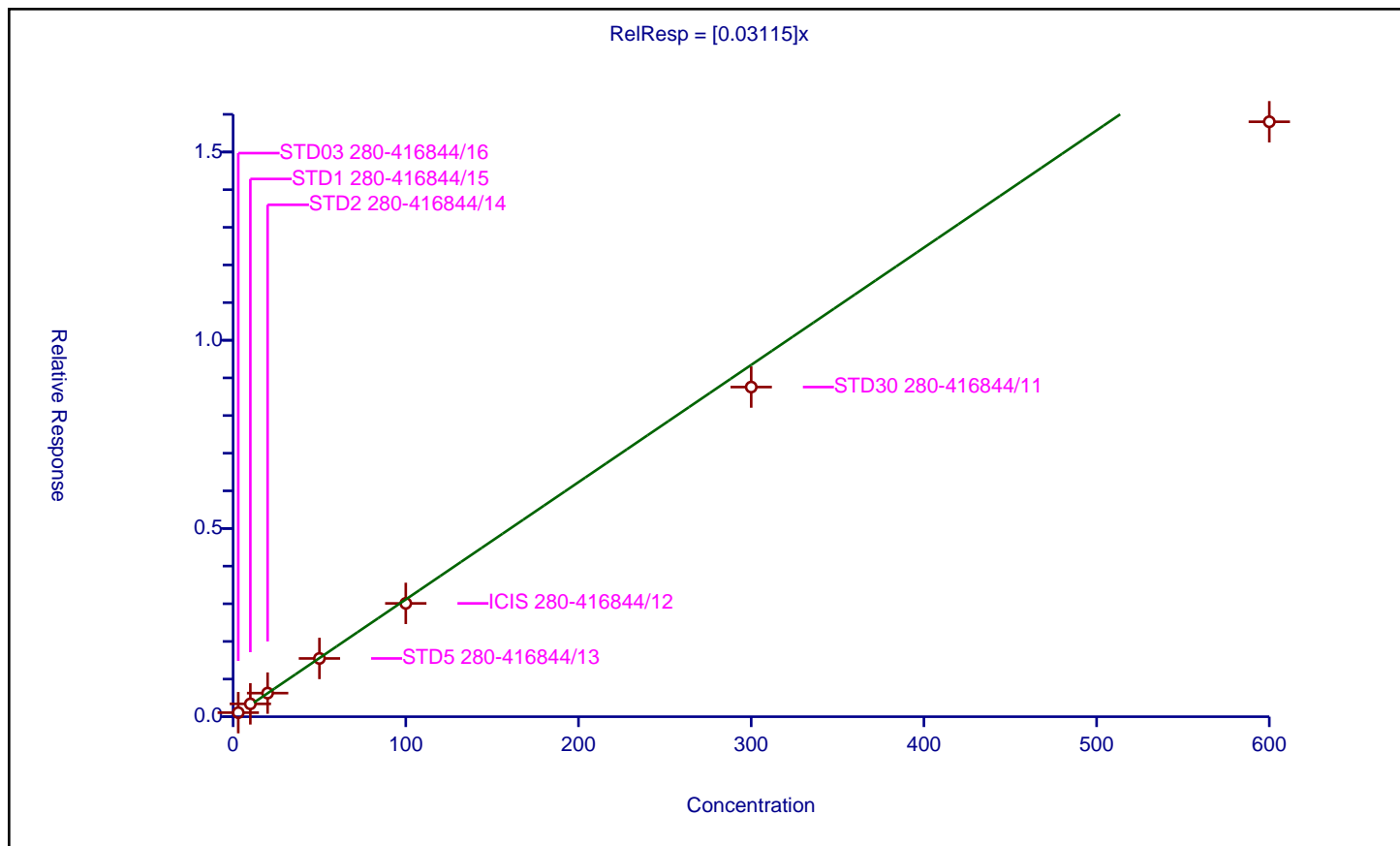
## Curve Coefficients

Intercept: 0  
 Slope: 0.03115

## Error Coefficients

Standard Error: 610000  
 Relative Standard Error: 10.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	3.0	0.10792	12.5	1034682.0	0.035973	Y
2	STD1 280-416844/15	10.0	0.341375	12.5	1019333.0	0.034138	Y
3	STD2 280-416844/14	20.0	0.627257	12.5	1080358.0	0.031363	Y
4	STD5 280-416844/13	50.0	1.547276	12.5	1050580.0	0.030946	Y
5	ICIS 280-416844/12	100.0	3.010158	12.5	1075720.0	0.030102	Y
6	STD30 280-416844/11	300.0	8.756254	12.5	984385.0	0.029188	Y
7	STD60 280-416844/10	600.0	15.803494	12.5	1022372.0	0.026339	Y





# Calibration

/ Hexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

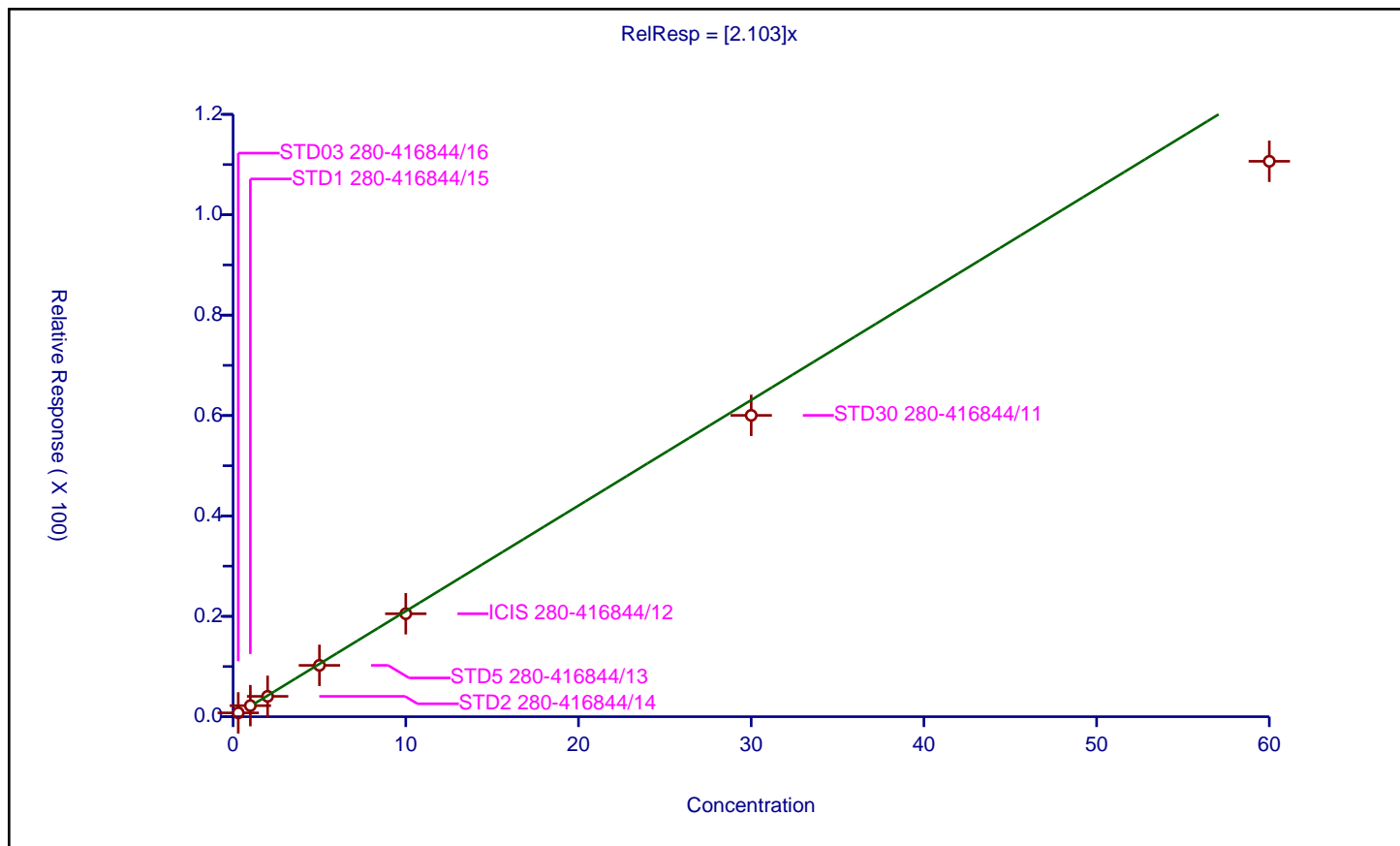
## Curve Coefficients

Intercept: 0  
 Slope: 2.103

## Error Coefficients

Standard Error: 1030000  
 Relative Standard Error: 10.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.763104	12.5	257845.0	2.543679	Y
2	STD1 280-416844/15	1.0	2.204432	12.5	255939.0	2.204432	Y
3	STD2 280-416844/14	2.0	4.05717	12.5	272382.0	2.028585	Y
4	STD5 280-416844/13	5.0	10.233229	12.5	264225.0	2.046646	Y
5	ICIS 280-416844/12	10.0	20.514526	12.5	267115.0	2.051453	Y
6	STD30 280-416844/11	30.0	60.034442	12.5	240331.0	2.001148	Y
7	STD60 280-416844/10	60.0	110.651331	12.5	246407.0	1.844189	Y





## Calibration

/ Vinyl acetate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

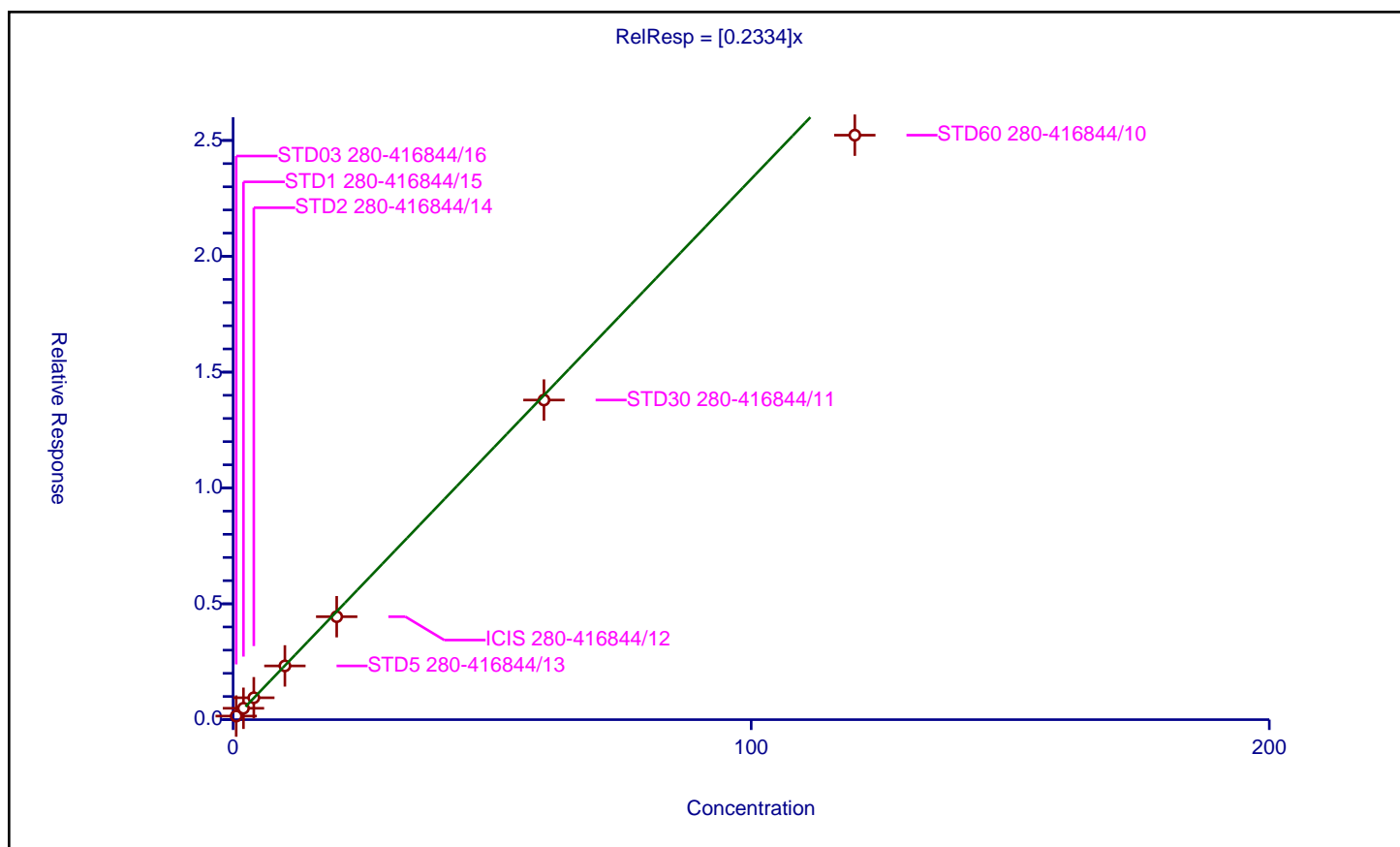
### Curve Coefficients

Intercept: 0  
 Slope: 0.2334

### Error Coefficients

Standard Error: 969000  
 Relative Standard Error: 6.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.6	0.154178	12.5	1034682.0	0.256963	Y
2	STD1 280-416844/15	2.0	0.491559	12.5	1019333.0	0.24578	Y
3	STD2 280-416844/14	4.0	0.945717	12.5	1080358.0	0.236429	Y
4	STD5 280-416844/13	10.0	2.319528	12.5	1050580.0	0.231953	Y
5	ICIS 280-416844/12	20.0	4.443803	12.5	1075720.0	0.22219	Y
6	STD30 280-416844/11	60.0	13.794882	12.5	984385.0	0.229915	Y
7	STD60 280-416844/10	120.0	25.227559	12.5	1022372.0	0.21023	Y





# Calibration

/ 1,1-Dichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

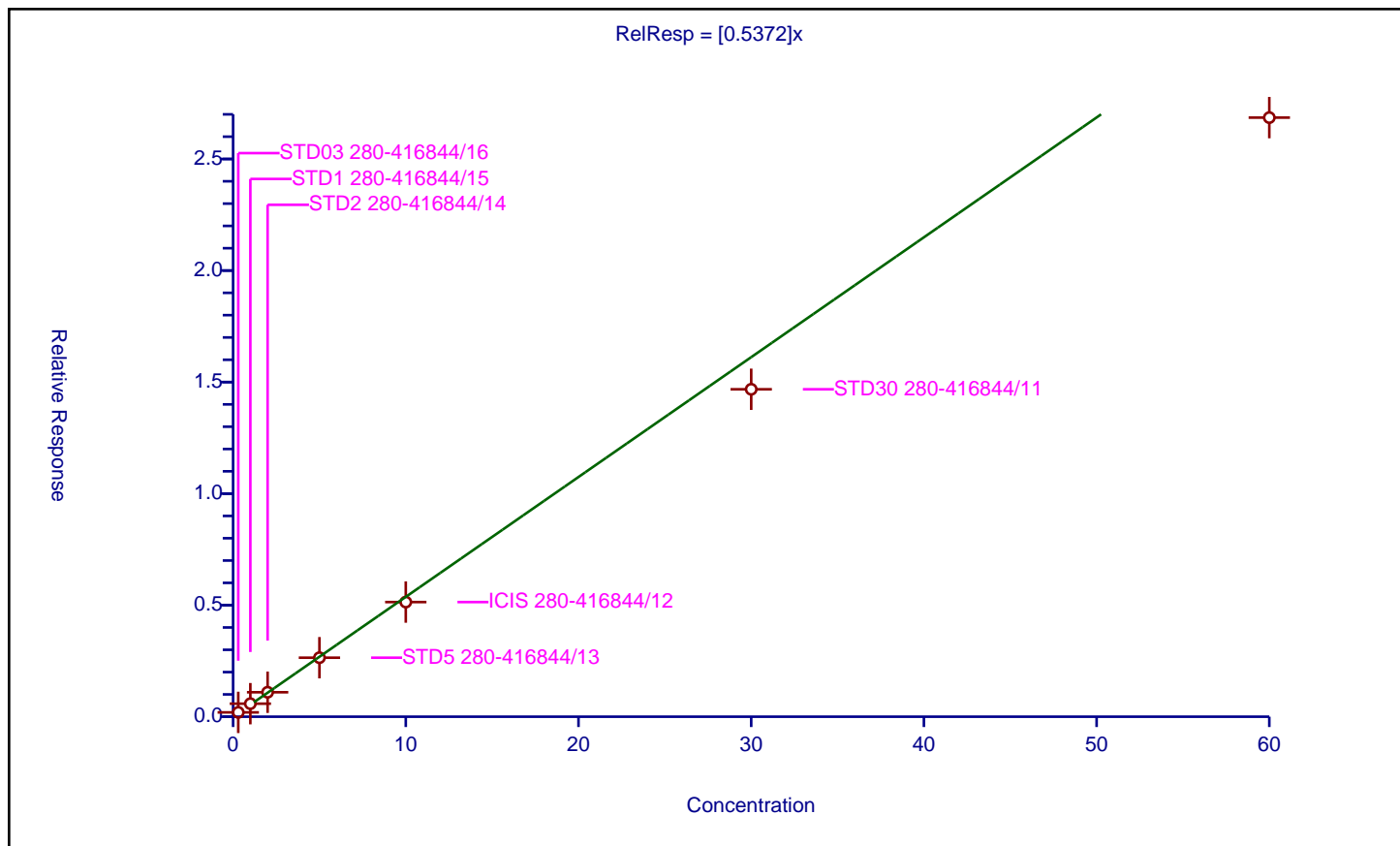
## Curve Coefficients

Intercept: 0  
 Slope: 0.5372

## Error Coefficients

Standard Error: 1030000  
 Relative Standard Error: 12.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.979

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.194492	12.5	1034682.0	0.648307	Y
2	STD1 280-416844/15	1.0	0.584598	12.5	1019333.0	0.584598	Y
3	STD2 280-416844/14	2.0	1.096037	12.5	1080358.0	0.548019	Y
4	STD5 280-416844/13	5.0	2.644741	12.5	1050580.0	0.528948	Y
5	ICIS 280-416844/12	10.0	5.138512	12.5	1075720.0	0.513851	Y
6	STD30 280-416844/11	30.0	14.676727	12.5	984385.0	0.489224	Y
7	STD60 280-416844/10	60.0	26.854511	12.5	1022372.0	0.447575	Y





## Calibration

/ 2-Butanone (MEK)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

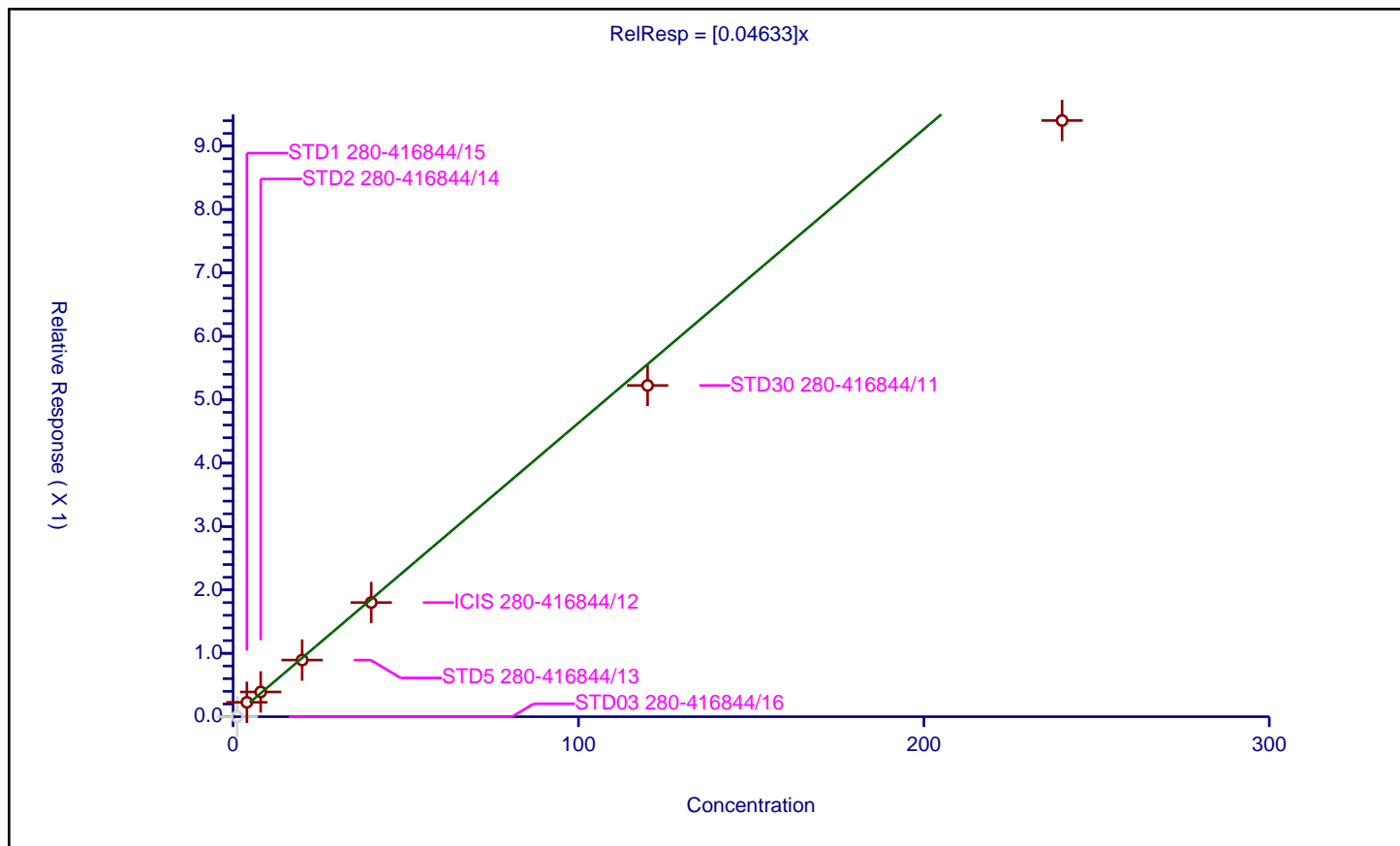
### Curve Coefficients

Intercept: 0  
 Slope: 0.04633

### Error Coefficients

Standard Error: 398000  
 Relative Standard Error: 12.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.970

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	4.0	0.227109	12.5	1019333.0	0.056777	Y
3	STD2 280-416844/14	8.0	0.390461	12.5	1080358.0	0.048808	Y
4	STD5 280-416844/13	20.0	0.89353	12.5	1050580.0	0.044677	Y
5	ICIS 280-416844/12	40.0	1.800457	12.5	1075720.0	0.045011	Y
6	STD30 280-416844/11	120.0	5.224353	12.5	984385.0	0.043536	Y
7	STD60 280-416844/10	240.0	9.402644	12.5	1022372.0	0.039178	Y





# Calibration

/ sec-Butyl Alcohol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

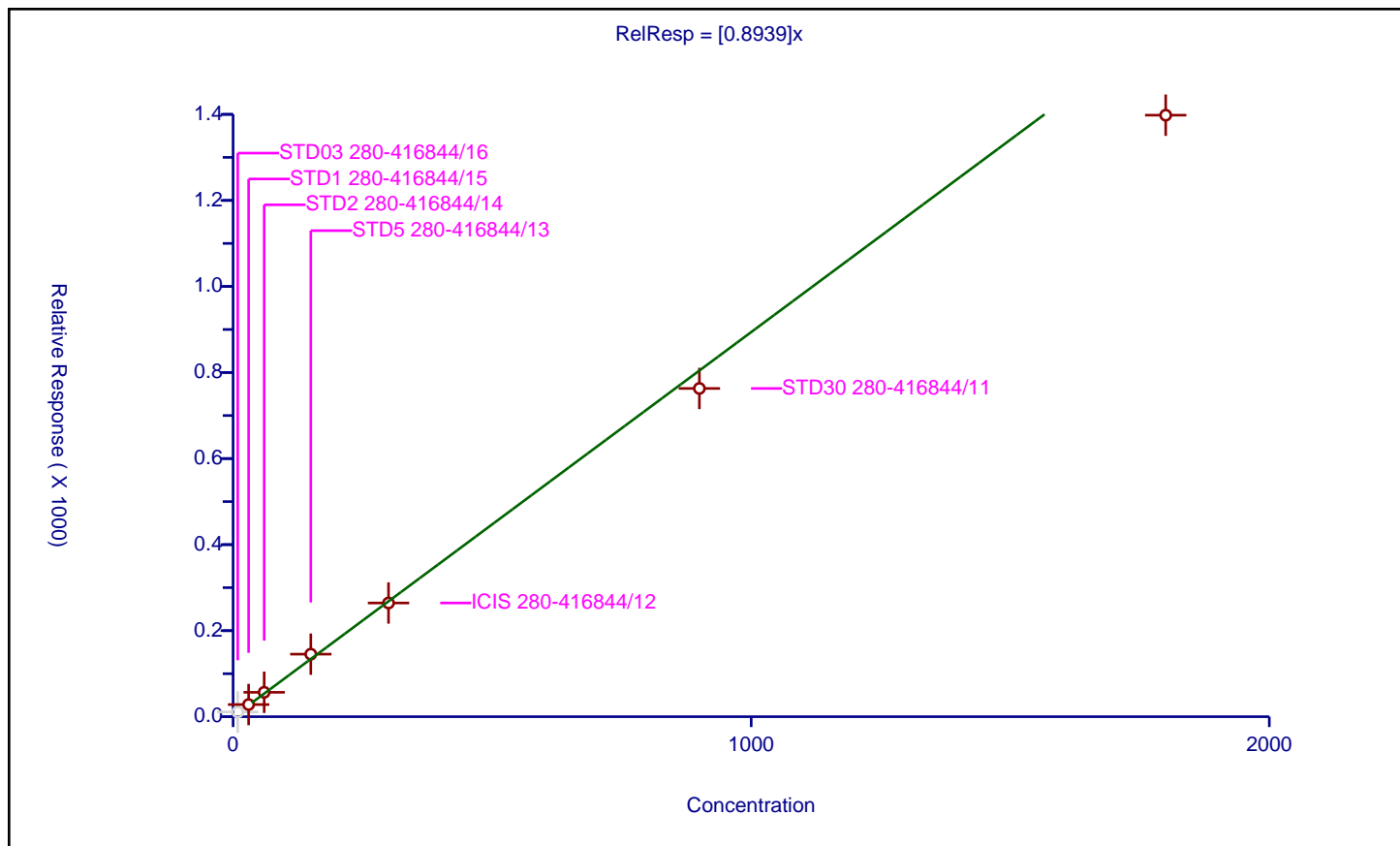
## Curve Coefficients

Intercept: 0  
 Slope: 0.8939

## Error Coefficients

Standard Error: 468000  
 Relative Standard Error: 8.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	9.0	10.991453	250.0	155257.0	1.221273	N
2	STD1 280-416844/15	30.0	28.288203	250.0	147535.0	0.94294	Y
3	STD2 280-416844/14	60.0	56.758015	250.0	157894.0	0.945967	Y
4	STD5 280-416844/13	150.0	145.387316	250.0	148677.0	0.969249	Y
5	ICIS 280-416844/12	300.0	264.287278	250.0	164412.0	0.880958	Y
6	STD30 280-416844/11	900.0	762.965401	250.0	159540.0	0.847739	Y
7	STD60 280-416844/10	1800.0	1398.07888	250.0	162145.0	0.77671	Y





## Calibration

/ 2,2-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

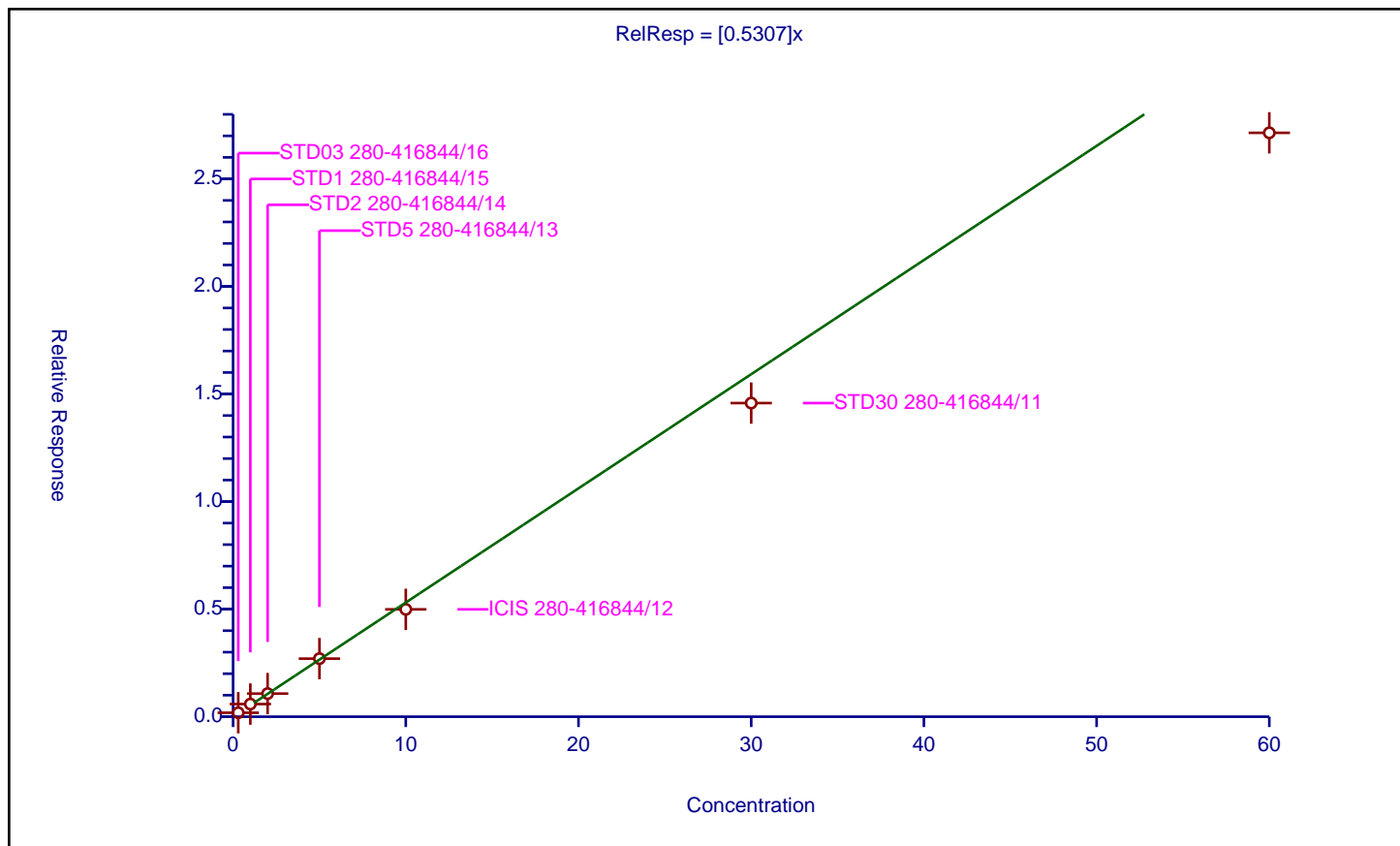
### Curve Coefficients

Intercept: 0  
 Slope: 0.5307

### Error Coefficients

Standard Error: 1040000  
 Relative Standard Error: 10.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.183861	12.5	1034682.0	0.612869	Y
2	STD1 280-416844/15	1.0	0.587762	12.5	1019333.0	0.587762	Y
3	STD2 280-416844/14	2.0	1.074007	12.5	1080358.0	0.537004	Y
4	STD5 280-416844/13	5.0	2.699354	12.5	1050580.0	0.539871	Y
5	ICIS 280-416844/12	10.0	4.990007	12.5	1075720.0	0.499001	Y
6	STD30 280-416844/11	30.0	14.579115	12.5	984385.0	0.485971	Y
7	STD60 280-416844/10	60.0	27.142151	12.5	1022372.0	0.452369	Y





## Calibration

/ cis-1,2-Dichloroethene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

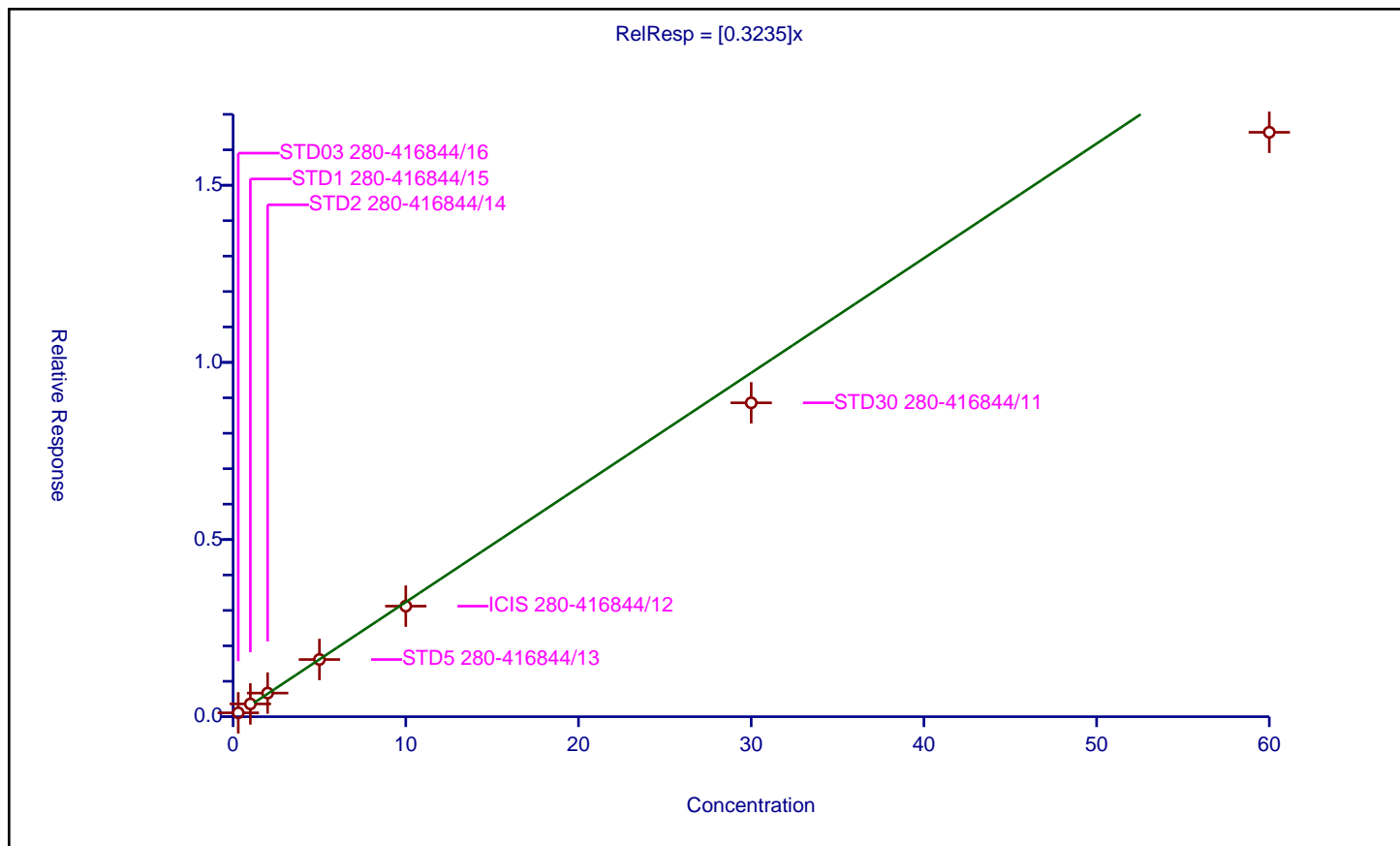
## Curve Coefficients

Intercept: 0  
Slope: 0.3235

## Error Coefficients

Standard Error: 633000  
Relative Standard Error: 10.2  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.10943	12.5	1034682.0	0.364766	Y
2	STD1 280-416844/15	1.0	0.361045	12.5	1019333.0	0.361045	Y
3	STD2 280-416844/14	2.0	0.666943	12.5	1080358.0	0.333472	Y
4	STD5 280-416844/13	5.0	1.614561	12.5	1050580.0	0.322912	Y
5	ICIS 280-416844/12	10.0	3.120596	12.5	1075720.0	0.31206	Y
6	STD30 280-416844/11	30.0	8.85864	12.5	984385.0	0.295288	Y
7	STD60 280-416844/10	60.0	16.494436	12.5	1022372.0	0.274907	Y





# Calibration

/ Tetrahydrofuran

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

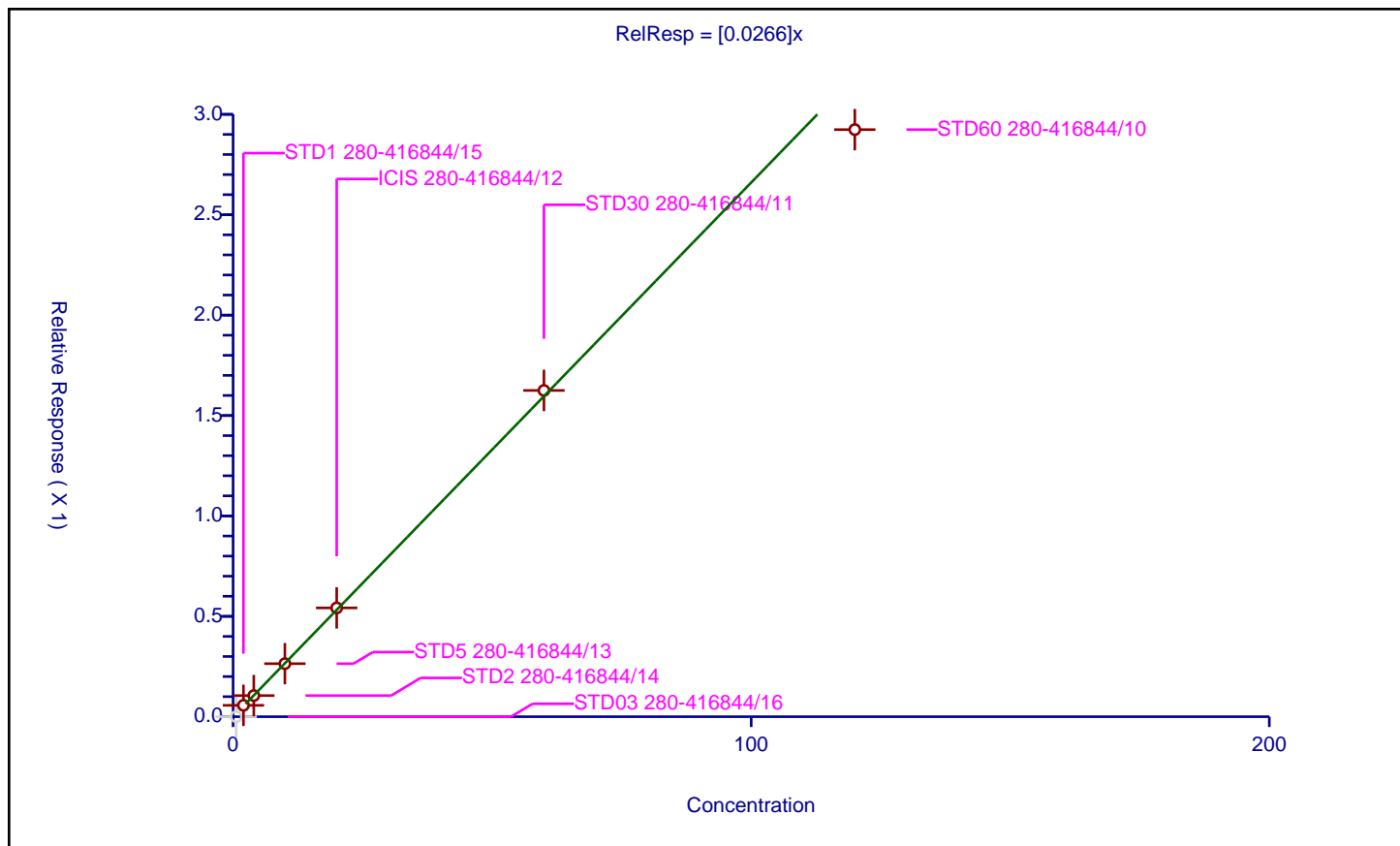
## Curve Coefficients

Intercept: 0  
 Slope: 0.0266

## Error Coefficients

Standard Error: 124000  
 Relative Standard Error: 5.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.6	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	2.0	0.056716	12.5	1019333.0	0.028358	Y
3	STD2 280-416844/14	4.0	0.105185	12.5	1080358.0	0.026296	Y
4	STD5 280-416844/13	10.0	0.264223	12.5	1050580.0	0.026422	Y
5	ICIS 280-416844/12	20.0	0.54187	12.5	1075720.0	0.027093	Y
6	STD30 280-416844/11	60.0	1.624949	12.5	984385.0	0.027082	Y
7	STD60 280-416844/10	120.0	2.924009	12.5	1022372.0	0.024367	Y





# Calibration

/ Chlorobromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

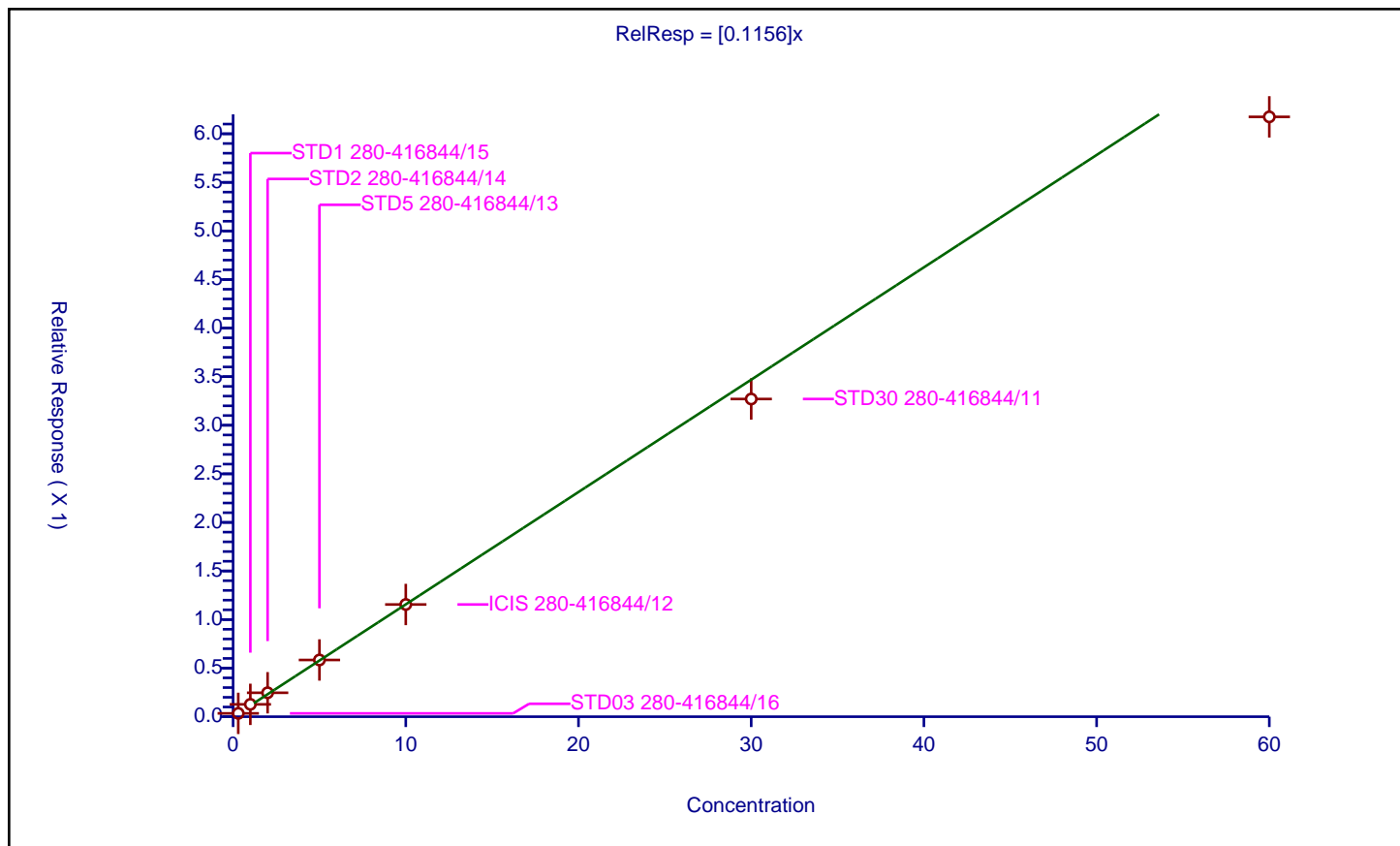
## Curve Coefficients

Intercept: 0  
 Slope: 0.1156

## Error Coefficients

Standard Error: 236000  
 Relative Standard Error: 7.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.034419	12.5	1034682.0	0.114729	Y
2	STD1 280-416844/15	1.0	0.127301	12.5	1019333.0	0.127301	Y
3	STD2 280-416844/14	2.0	0.246354	12.5	1080358.0	0.123177	Y
4	STD5 280-416844/13	5.0	0.584023	12.5	1050580.0	0.116805	Y
5	ICIS 280-416844/12	10.0	1.15511	12.5	1075720.0	0.115511	Y
6	STD30 280-416844/11	30.0	3.270303	12.5	984385.0	0.10901	Y
7	STD60 280-416844/10	60.0	6.17433	12.5	1022372.0	0.102906	Y





# Calibration

/ Chloroform

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

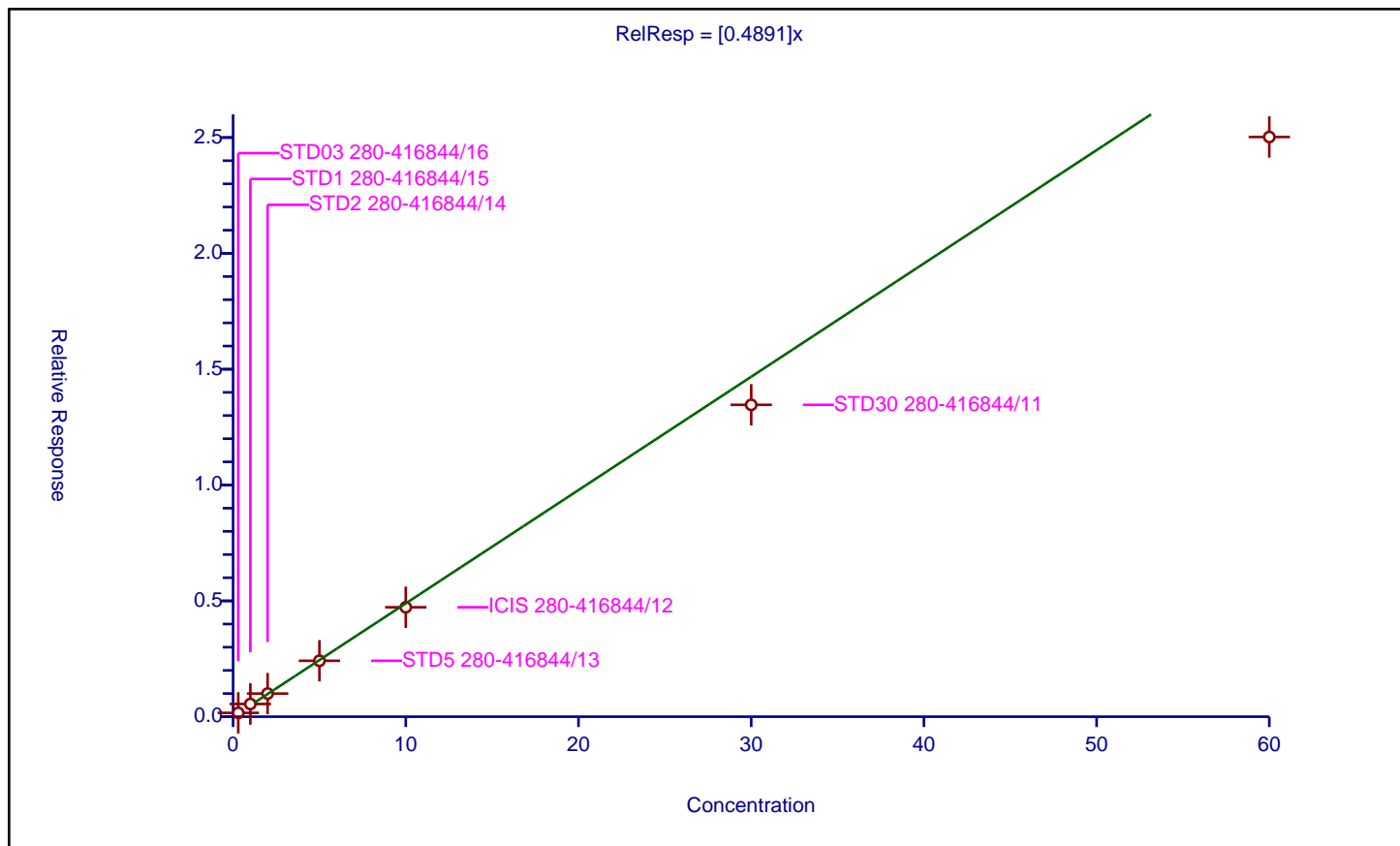
## Curve Coefficients

Intercept: 0  
 Slope: 0.4891

## Error Coefficients

Standard Error: 960000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.166138	12.5	1034682.0	0.553793	Y
2	STD1 280-416844/15	1.0	0.549796	12.5	1019333.0	0.549796	Y
3	STD2 280-416844/14	2.0	0.998488	12.5	1080358.0	0.499244	Y
4	STD5 280-416844/13	5.0	2.414452	12.5	1050580.0	0.48289	Y
5	ICIS 280-416844/12	10.0	4.724382	12.5	1075720.0	0.472438	Y
6	STD30 280-416844/11	30.0	13.461705	12.5	984385.0	0.448723	Y
7	STD60 280-416844/10	60.0	25.023145	12.5	1022372.0	0.417052	Y





# Calibration

/ Dibromofluoromethane (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

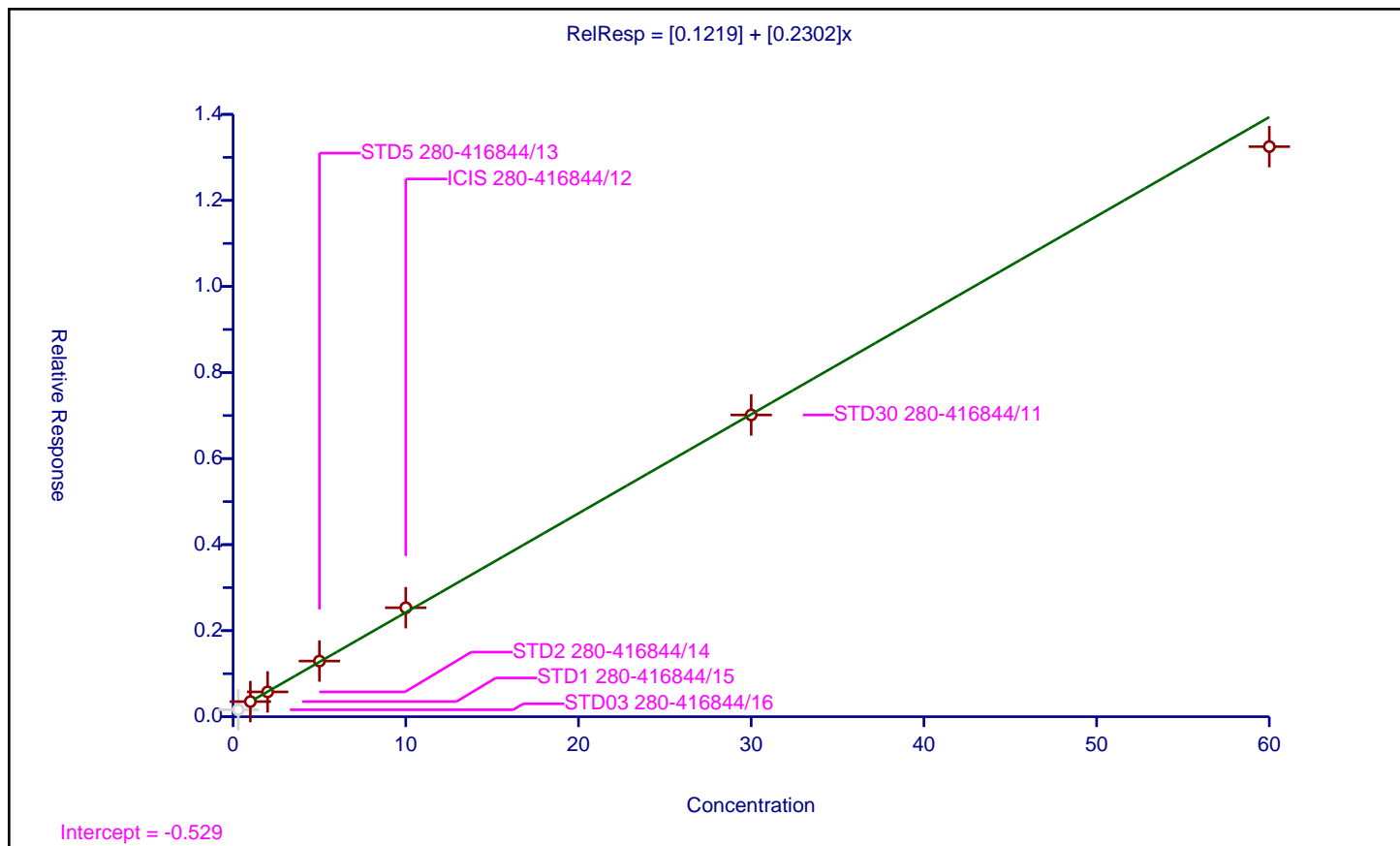
## Curve Coefficients

Intercept: 0.1219  
 Slope: 0.2302

## Error Coefficients

Standard Error: 621000  
 Relative Standard Error: 3.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.161197	12.5	1034682.0	0.537323	N
2	STD1 280-416844/15	1.0	0.351737	12.5	1019333.0	0.351737	Y
3	STD2 280-416844/14	2.0	0.576962	12.5	1080358.0	0.288481	Y
4	STD5 280-416844/13	5.0	1.293345	12.5	1050580.0	0.258669	Y
5	ICIS 280-416844/12	10.0	2.533385	12.5	1075720.0	0.253338	Y
6	STD30 280-416844/11	30.0	7.013249	12.5	984385.0	0.233775	Y
7	STD60 280-416844/10	60.0	13.249996	12.5	1022372.0	0.220833	Y





# Calibration

/ 1,1,1-Trichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

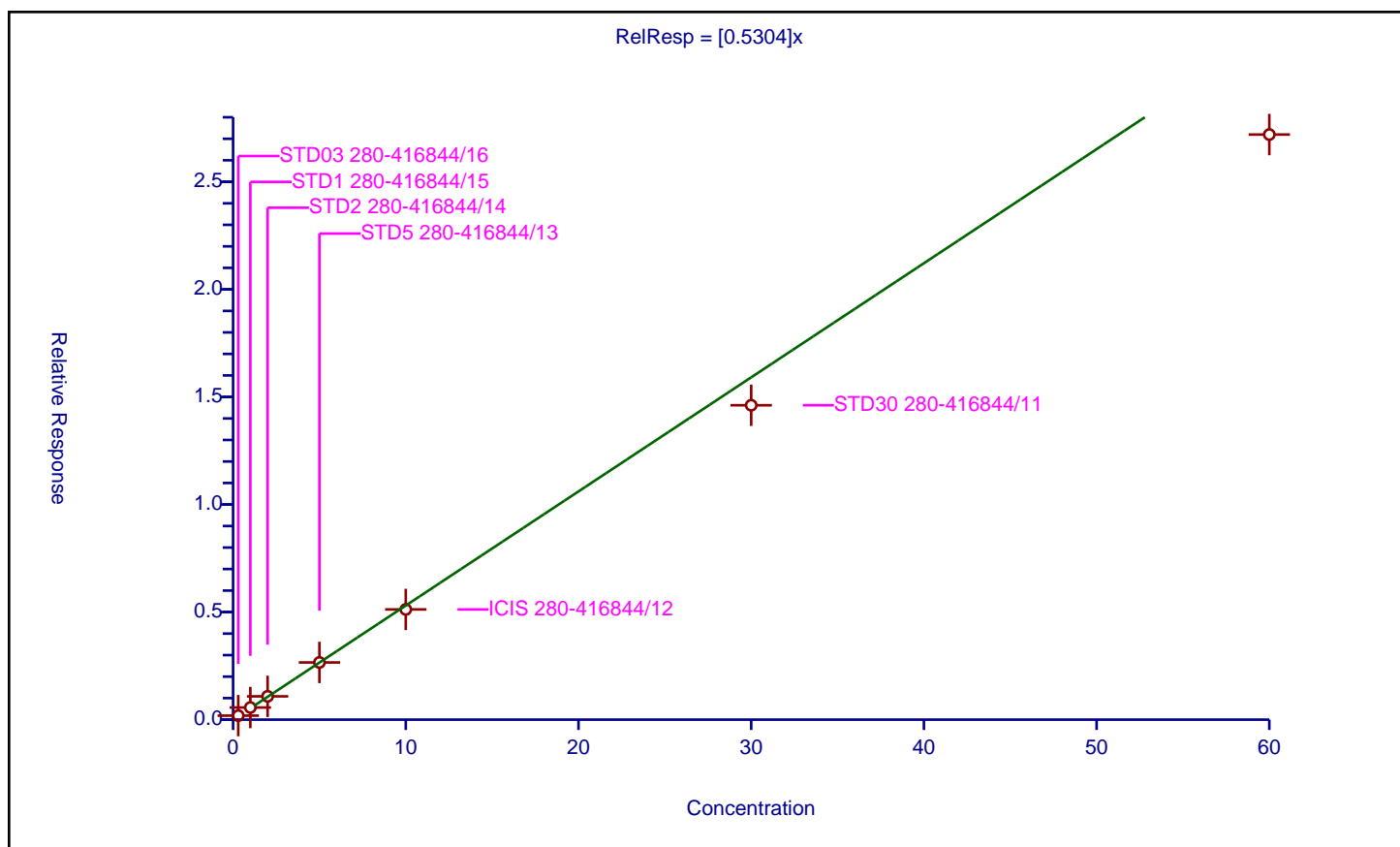
## Curve Coefficients

Intercept: 0  
 Slope: 0.5304

## Error Coefficients

Standard Error: 1040000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.186869	12.5	1034682.0	0.622897	Y
2	STD1 280-416844/15	1.0	0.564217	12.5	1019333.0	0.564217	Y
3	STD2 280-416844/14	2.0	1.082708	12.5	1080358.0	0.541354	Y
4	STD5 280-416844/13	5.0	2.657258	12.5	1050580.0	0.531452	Y
5	ICIS 280-416844/12	10.0	5.123324	12.5	1075720.0	0.512332	Y
6	STD30 280-416844/11	30.0	14.613375	12.5	984385.0	0.487113	Y
7	STD60 280-416844/10	60.0	27.196375	12.5	1022372.0	0.453273	Y





## Calibration

/ Isobutyl alcohol

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

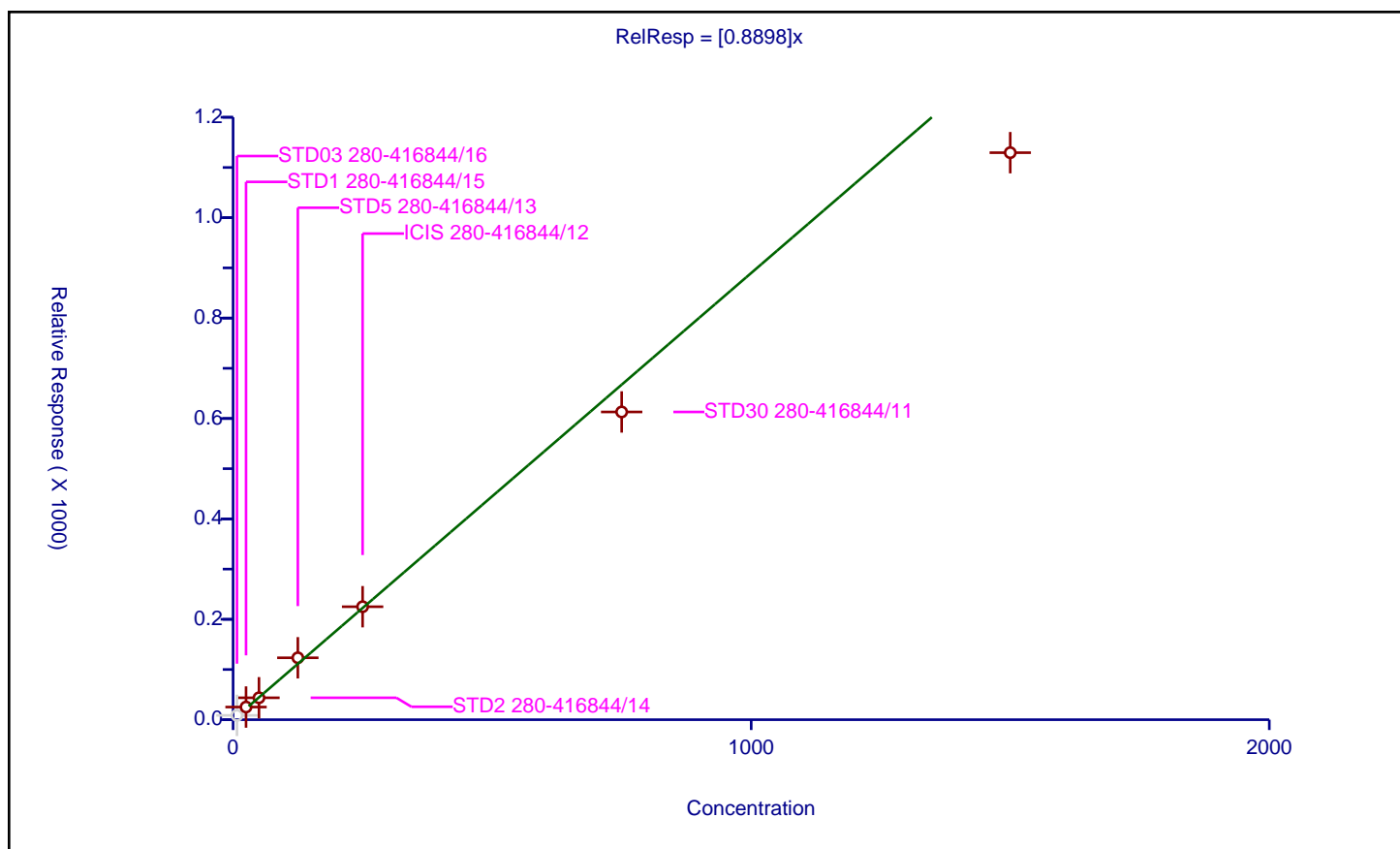
### Curve Coefficients

Intercept: 0  
 Slope: 0.8898

### Error Coefficients

Standard Error: 378000  
 Relative Standard Error: 11.0  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	7.5	8.621189	250.0	155257.0	1.149492	N
2	STD1 280-416844/15	25.0	25.205883	250.0	147535.0	1.008235	Y
3	STD2 280-416844/14	50.0	43.66537	250.0	157894.0	0.873307	Y
4	STD5 280-416844/13	125.0	123.327751	250.0	148677.0	0.986622	Y
5	ICIS 280-416844/12	250.0	225.071771	250.0	164412.0	0.900287	Y
6	STD30 280-416844/11	750.0	613.026514	250.0	159540.0	0.817369	Y
7	STD60 280-416844/10	1500.0	1129.502914	250.0	162145.0	0.753002	Y





# Calibration

/ Cyclohexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

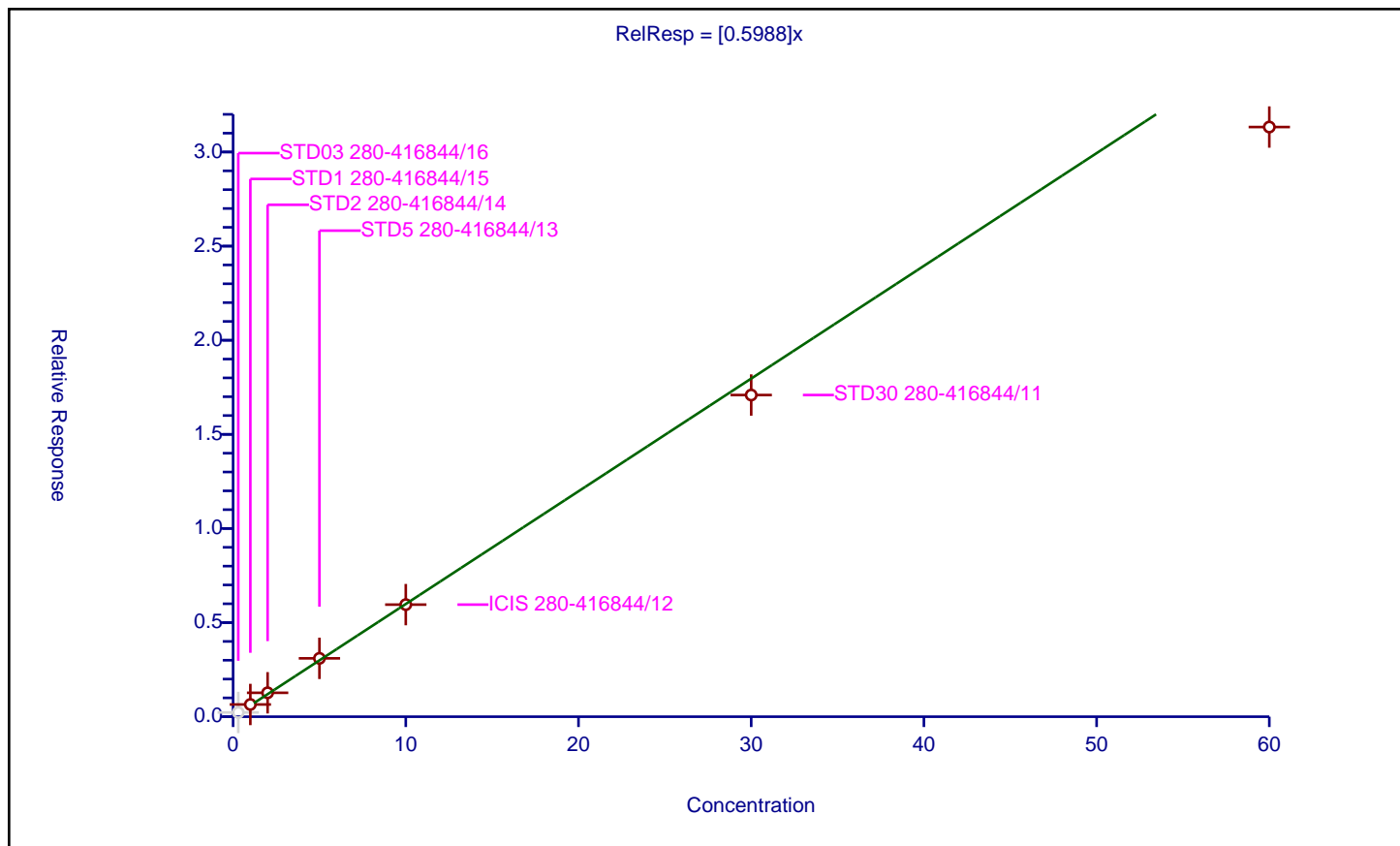
## Curve Coefficients

Intercept: 0  
 Slope: 0.5988

## Error Coefficients

Standard Error: 1320000  
 Relative Standard Error: 7.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.225951	12.5	1034682.0	0.75317	N
2	STD1 280-416844/15	1.0	0.650021	12.5	1019333.0	0.650021	Y
3	STD2 280-416844/14	2.0	1.270262	12.5	1080358.0	0.635131	Y
4	STD5 280-416844/13	5.0	3.10112	12.5	1050580.0	0.620224	Y
5	ICIS 280-416844/12	10.0	5.955232	12.5	1075720.0	0.595523	Y
6	STD30 280-416844/11	30.0	17.089477	12.5	984385.0	0.569649	Y
7	STD60 280-416844/10	60.0	31.326831	12.5	1022372.0	0.522114	Y





## Calibration

/ 1,1-Dichloropropene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

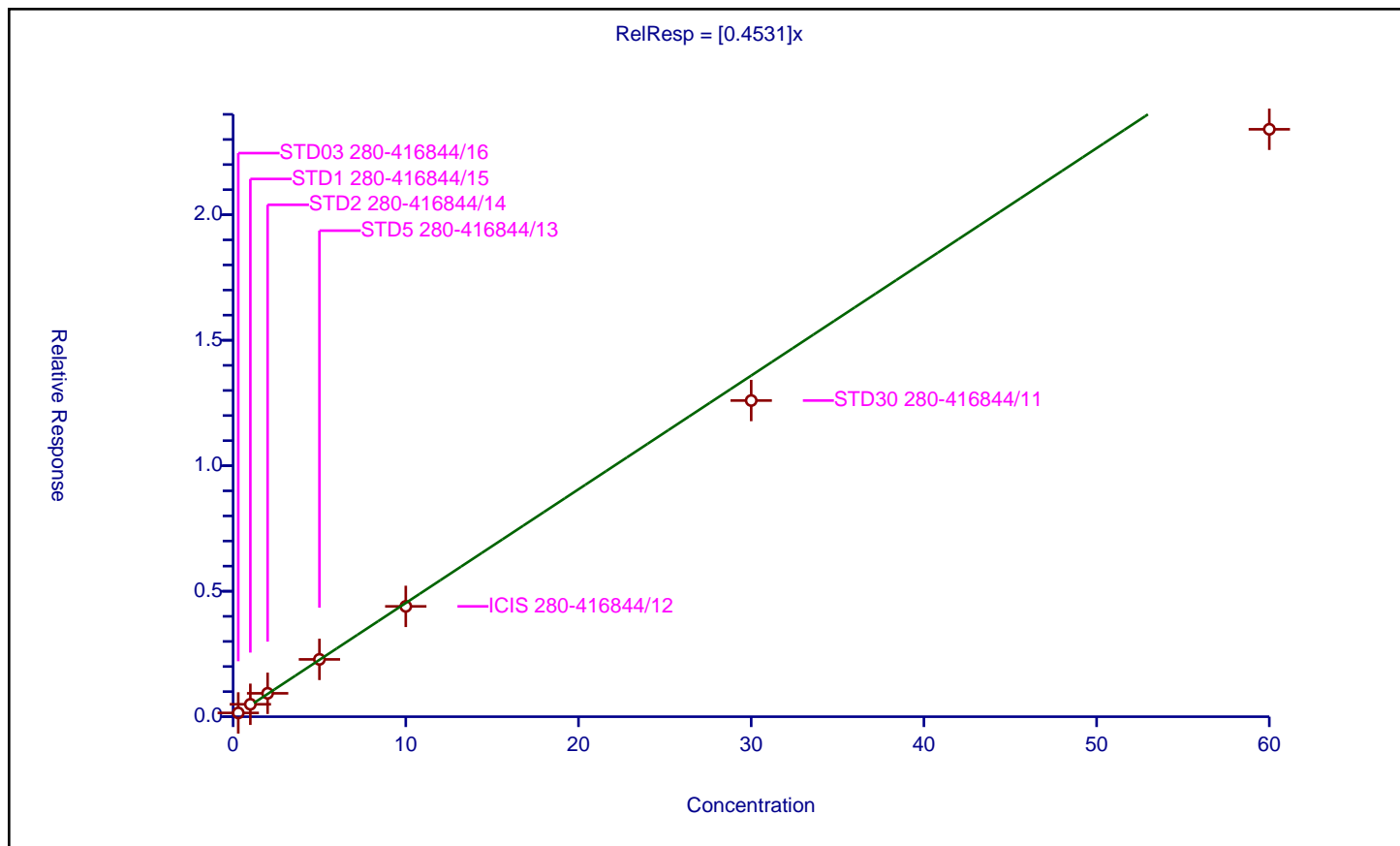
### Curve Coefficients

Intercept: 0  
 Slope: 0.4531

### Error Coefficients

Standard Error: 898000  
 Relative Standard Error: 8.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.150952	12.5	1034682.0	0.503174	Y
2	STD1 280-416844/15	1.0	0.495447	12.5	1019333.0	0.495447	Y
3	STD2 280-416844/14	2.0	0.932573	12.5	1080358.0	0.466286	Y
4	STD5 280-416844/13	5.0	2.284548	12.5	1050580.0	0.45691	Y
5	ICIS 280-416844/12	10.0	4.396137	12.5	1075720.0	0.439614	Y
6	STD30 280-416844/11	30.0	12.598374	12.5	984385.0	0.419946	Y
7	STD60 280-416844/10	60.0	23.404886	12.5	1022372.0	0.390081	Y





## Calibration

/ Carbon tetrachloride

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

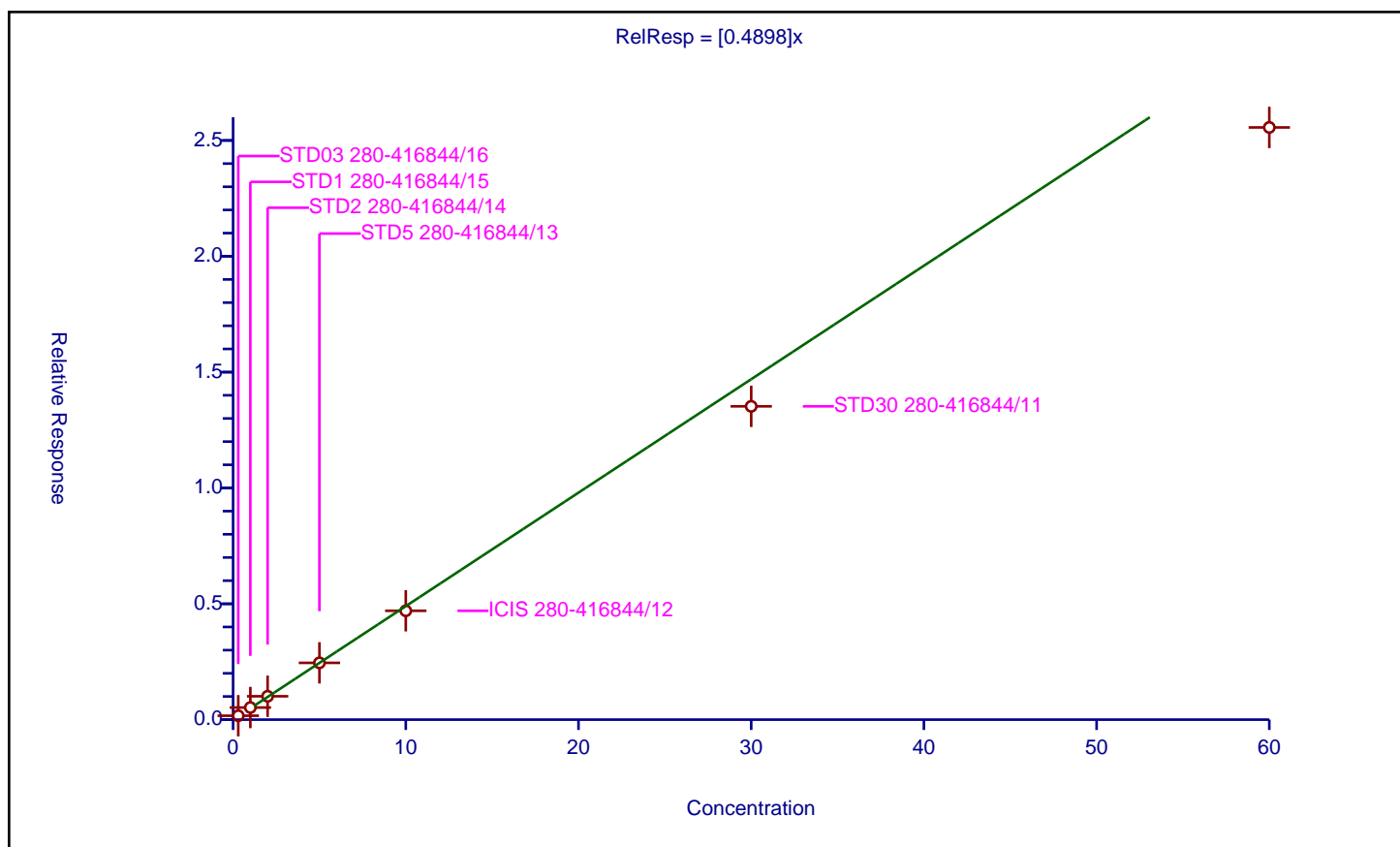
### Curve Coefficients

Intercept: 0  
 Slope: 0.4898

### Error Coefficients

Standard Error: 976000  
 Relative Standard Error: 9.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.169364	12.5	1034682.0	0.564545	Y
2	STD1 280-416844/15	1.0	0.522572	12.5	1019333.0	0.522572	Y
3	STD2 280-416844/14	2.0	1.009179	12.5	1080358.0	0.50459	Y
4	STD5 280-416844/13	5.0	2.45167	12.5	1050580.0	0.490334	Y
5	ICIS 280-416844/12	10.0	4.698551	12.5	1075720.0	0.469855	Y
6	STD30 280-416844/11	30.0	13.523317	12.5	984385.0	0.450777	Y
7	STD60 280-416844/10	60.0	25.560975	12.5	1022372.0	0.426016	Y





# Calibration

/ 1,2-Dichloroethane-d4 (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

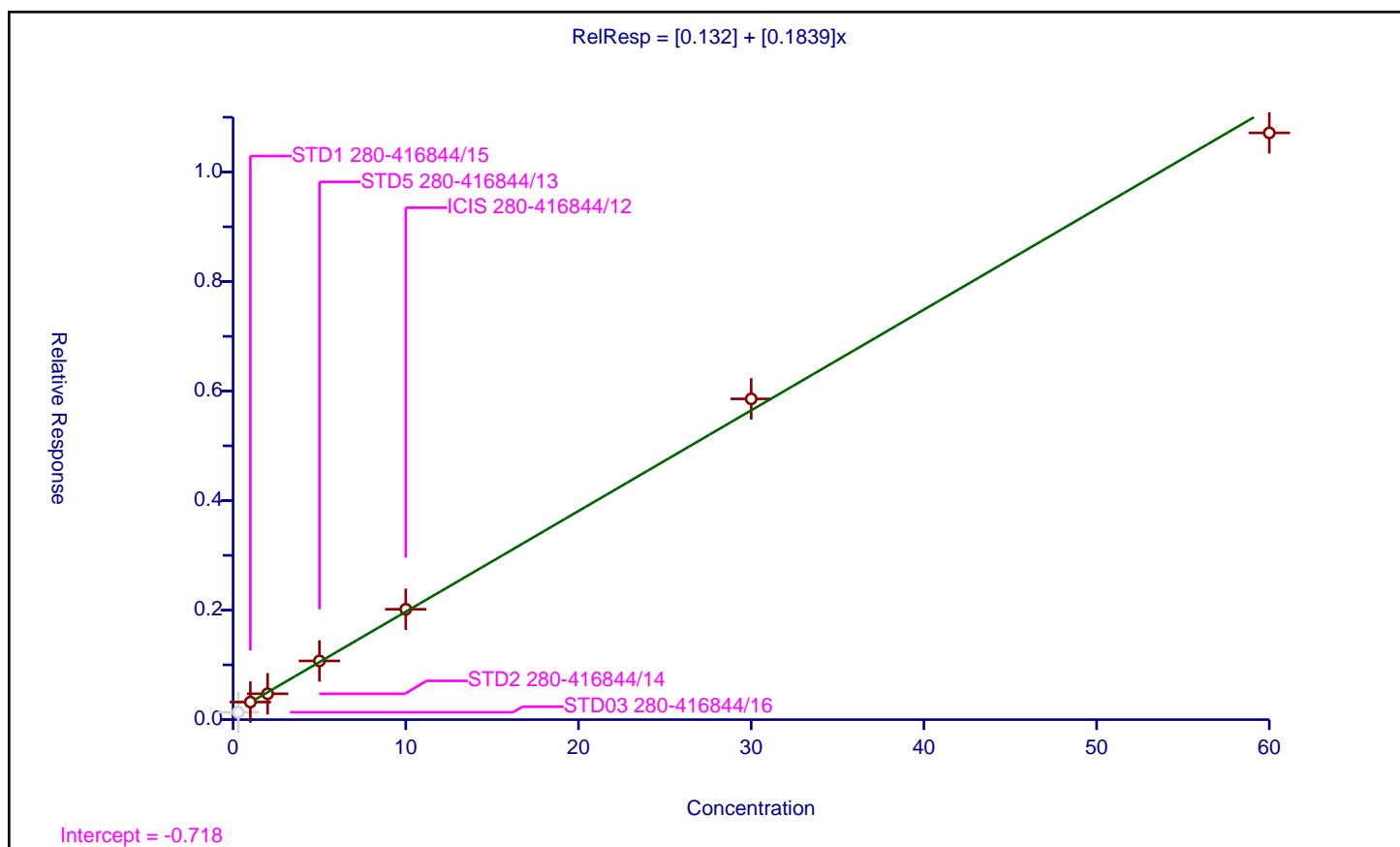
## Curve Coefficients

Intercept: 0.132  
 Slope: 0.1839

## Error Coefficients

Standard Error: 505000  
 Relative Standard Error: 5.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.135174	12.5	1034682.0	0.450581	N
2	STD1 280-416844/15	1.0	0.321301	12.5	1019333.0	0.321301	Y
3	STD2 280-416844/14	2.0	0.472575	12.5	1080358.0	0.236287	Y
4	STD5 280-416844/13	5.0	1.072384	12.5	1050580.0	0.214477	Y
5	ICIS 280-416844/12	10.0	2.015813	12.5	1075720.0	0.201581	Y
6	STD30 280-416844/11	30.0	5.857718	12.5	984385.0	0.195257	Y
7	STD60 280-416844/10	60.0	10.715143	12.5	1022372.0	0.178586	Y





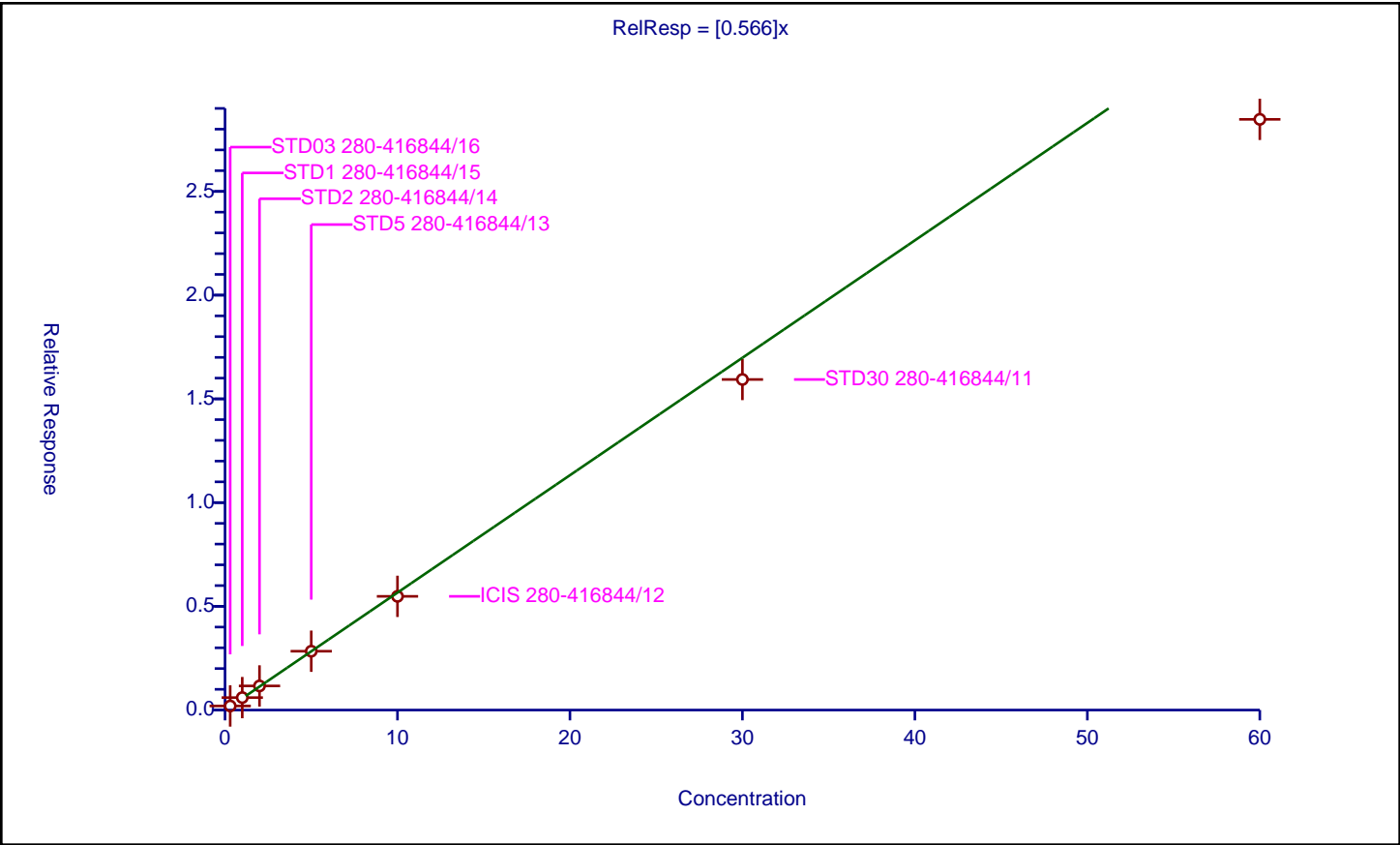
Calibration

/ n-Heptane

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	0.566
Error Coefficients	
Standard Error:	1100000
Relative Standard Error:	10.2
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.197802	12.5	1034682.0	0.659341	Y
2	STD1 280-416844/15	1.0	0.600589	12.5	1019333.0	0.600589	Y
3	STD2 280-416844/14	2.0	1.162323	12.5	1080358.0	0.581162	Y
4	STD5 280-416844/13	5.0	2.836326	12.5	1050580.0	0.567265	Y
5	ICIS 280-416844/12	10.0	5.481015	12.5	1075720.0	0.548102	Y
6	STD30 280-416844/11	30.0	15.934213	12.5	984385.0	0.53114	Y
7	STD60 280-416844/10	60.0	28.47332	12.5	1022372.0	0.474555	Y





## Calibration

/ Benzene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

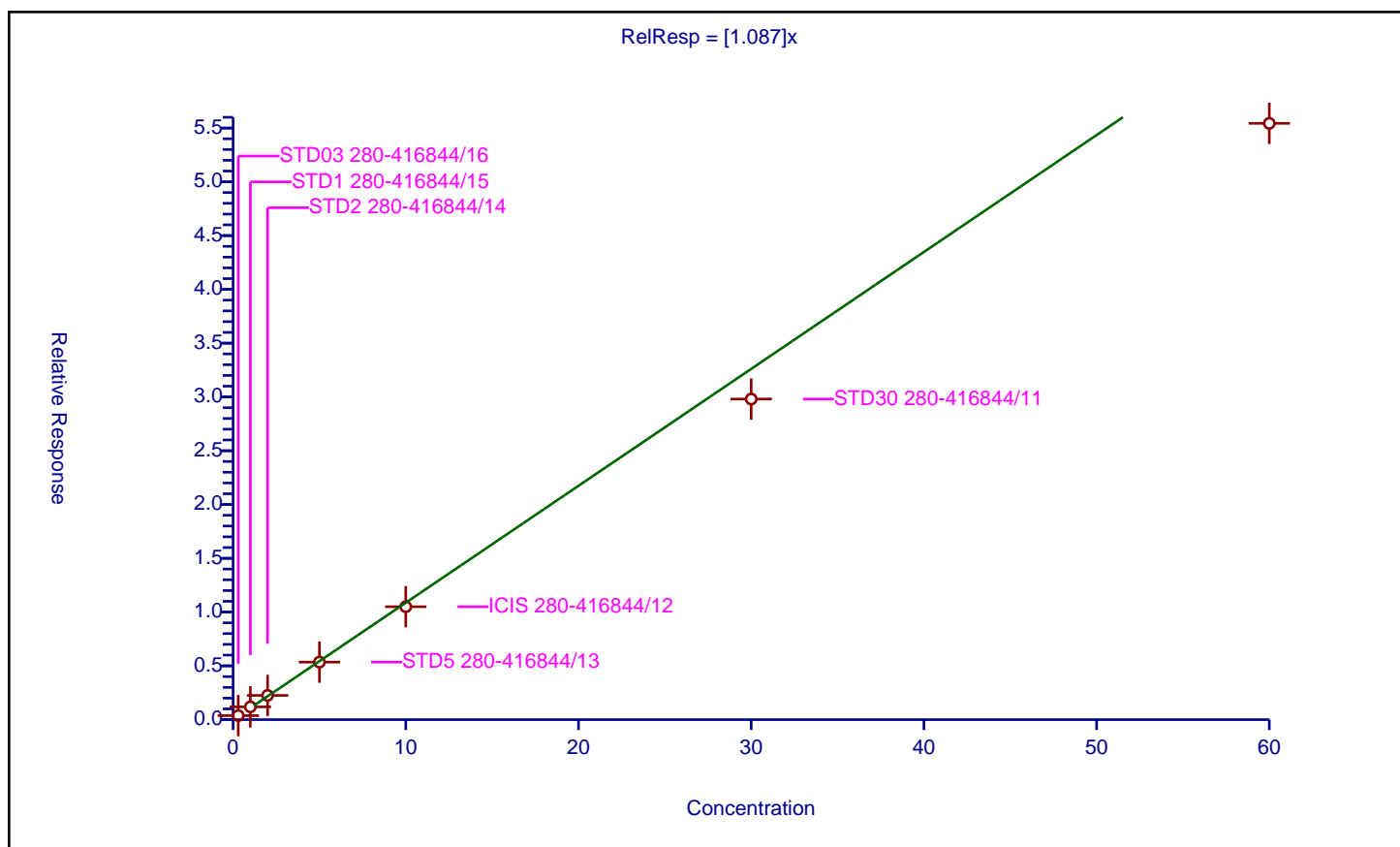
## Curve Coefficients

Intercept: 0  
Slope: 1.087

## Error Coefficients

Standard Error: 2130000  
Relative Standard Error: 10.5  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.376855	12.5	1034682.0	1.256183	Y
2	STD1 280-416844/15	1.0	1.18851	12.5	1019333.0	1.18851	Y
3	STD2 280-416844/14	2.0	2.253489	12.5	1080358.0	1.126745	Y
4	STD5 280-416844/13	5.0	5.348236	12.5	1050580.0	1.069647	Y
5	ICIS 280-416844/12	10.0	10.498445	12.5	1075720.0	1.049845	Y
6	STD30 280-416844/11	30.0	29.806897	12.5	984385.0	0.993563	Y
7	STD60 280-416844/10	60.0	55.433162	12.5	1022372.0	0.923886	Y





# Calibration

/ 1,2-Dichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

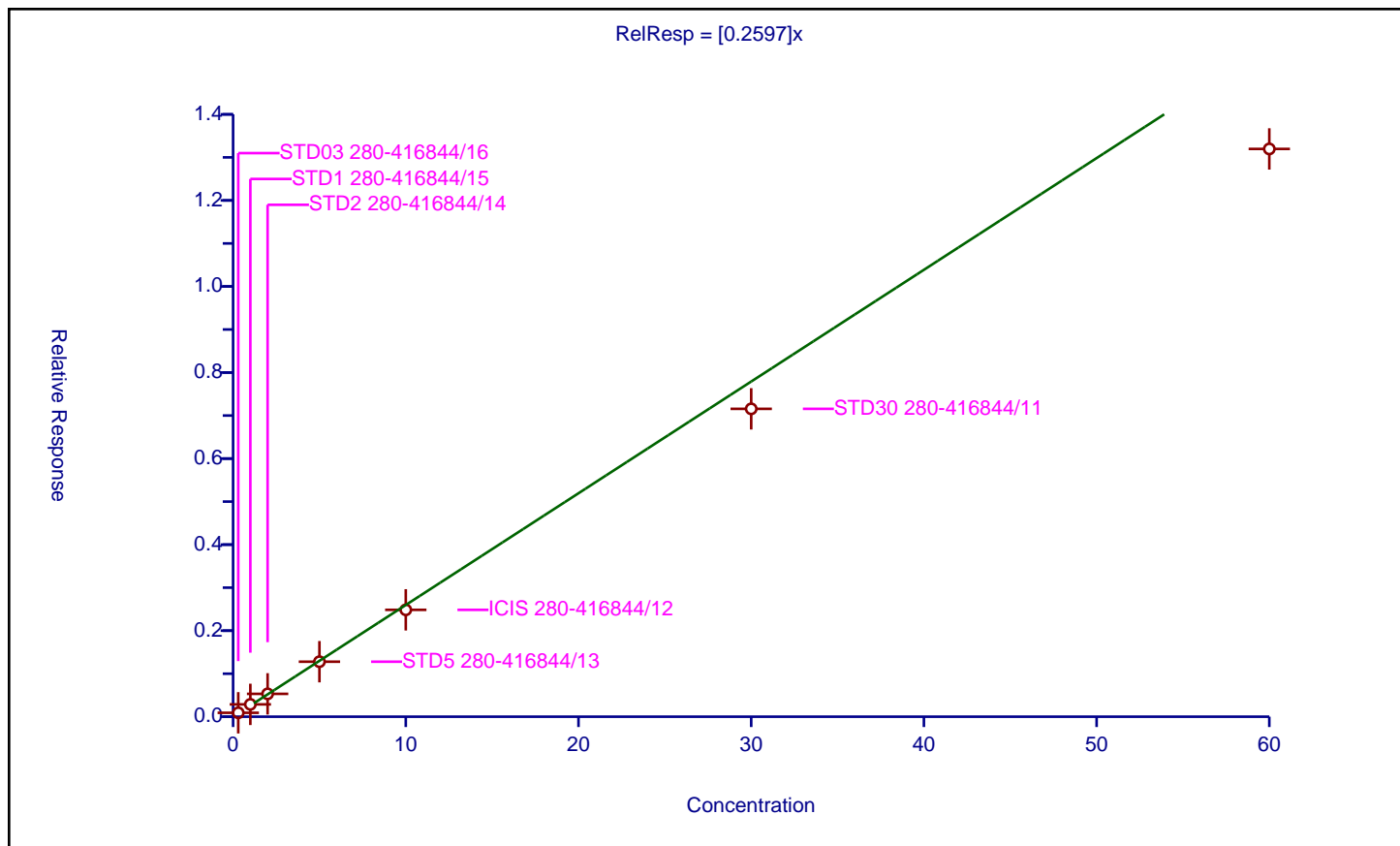
## Curve Coefficients

Intercept: 0  
 Slope: 0.2597

## Error Coefficients

Standard Error: 507000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.090873	12.5	1034682.0	0.302911	Y
2	STD1 280-416844/15	1.0	0.286732	12.5	1019333.0	0.286732	Y
3	STD2 280-416844/14	2.0	0.531051	12.5	1080358.0	0.265525	Y
4	STD5 280-416844/13	5.0	1.278401	12.5	1050580.0	0.25568	Y
5	ICIS 280-416844/12	10.0	2.483999	12.5	1075720.0	0.2484	Y
6	STD30 280-416844/11	30.0	7.155496	12.5	984385.0	0.238517	Y
7	STD60 280-416844/10	60.0	13.196848	12.5	1022372.0	0.219947	Y





# Calibration

/ Trichloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

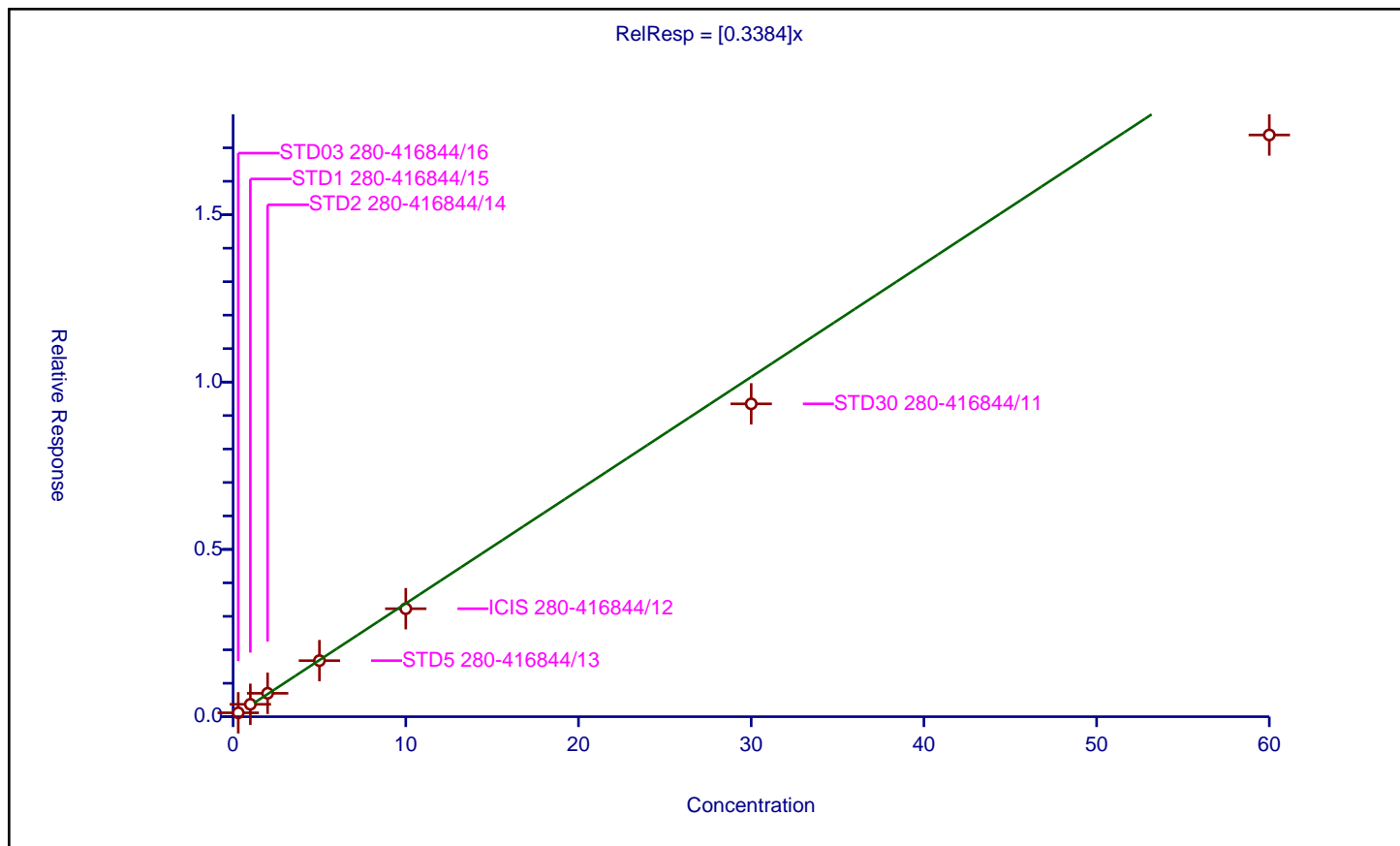
## Curve Coefficients

Intercept: 0  
 Slope: 0.3384

## Error Coefficients

Standard Error: 666000  
 Relative Standard Error: 10.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.116654	12.5	1034682.0	0.388847	Y
2	STD1 280-416844/15	1.0	0.370941	12.5	1019333.0	0.370941	Y
3	STD2 280-416844/14	2.0	0.69978	12.5	1080358.0	0.34989	Y
4	STD5 280-416844/13	5.0	1.675717	12.5	1050580.0	0.335143	Y
5	ICIS 280-416844/12	10.0	3.227397	12.5	1075720.0	0.32274	Y
6	STD30 280-416844/11	30.0	9.349365	12.5	984385.0	0.311646	Y
7	STD60 280-416844/10	60.0	17.383888	12.5	1022372.0	0.289731	Y





# Calibration

/ 2-Pentanone

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

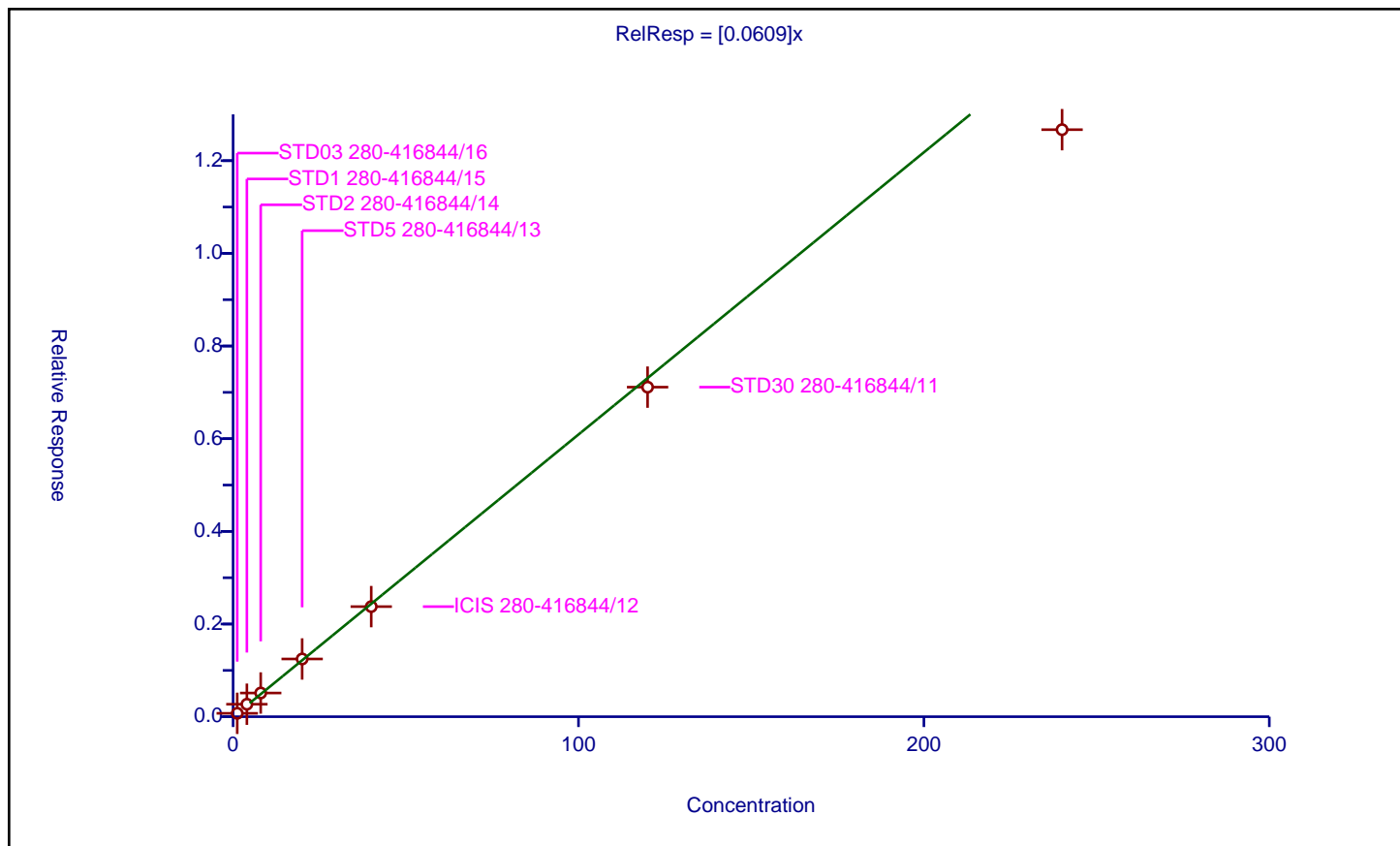
## Curve Coefficients

Intercept: 0  
 Slope: 0.0609

## Error Coefficients

Standard Error: 490000  
 Relative Standard Error: 7.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.073416	12.5	1034682.0	0.06118	Y
2	STD1 280-416844/15	4.0	0.269588	12.5	1019333.0	0.067397	Y
3	STD2 280-416844/14	8.0	0.511786	12.5	1080358.0	0.063973	Y
4	STD5 280-416844/13	20.0	1.246288	12.5	1050580.0	0.062314	Y
5	ICIS 280-416844/12	40.0	2.375909	12.5	1075720.0	0.059398	Y
6	STD30 280-416844/11	120.0	7.112906	12.5	984385.0	0.059274	Y
7	STD60 280-416844/10	240.0	12.669386	12.5	1022372.0	0.052789	Y





# Calibration

/ Methylcyclohexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

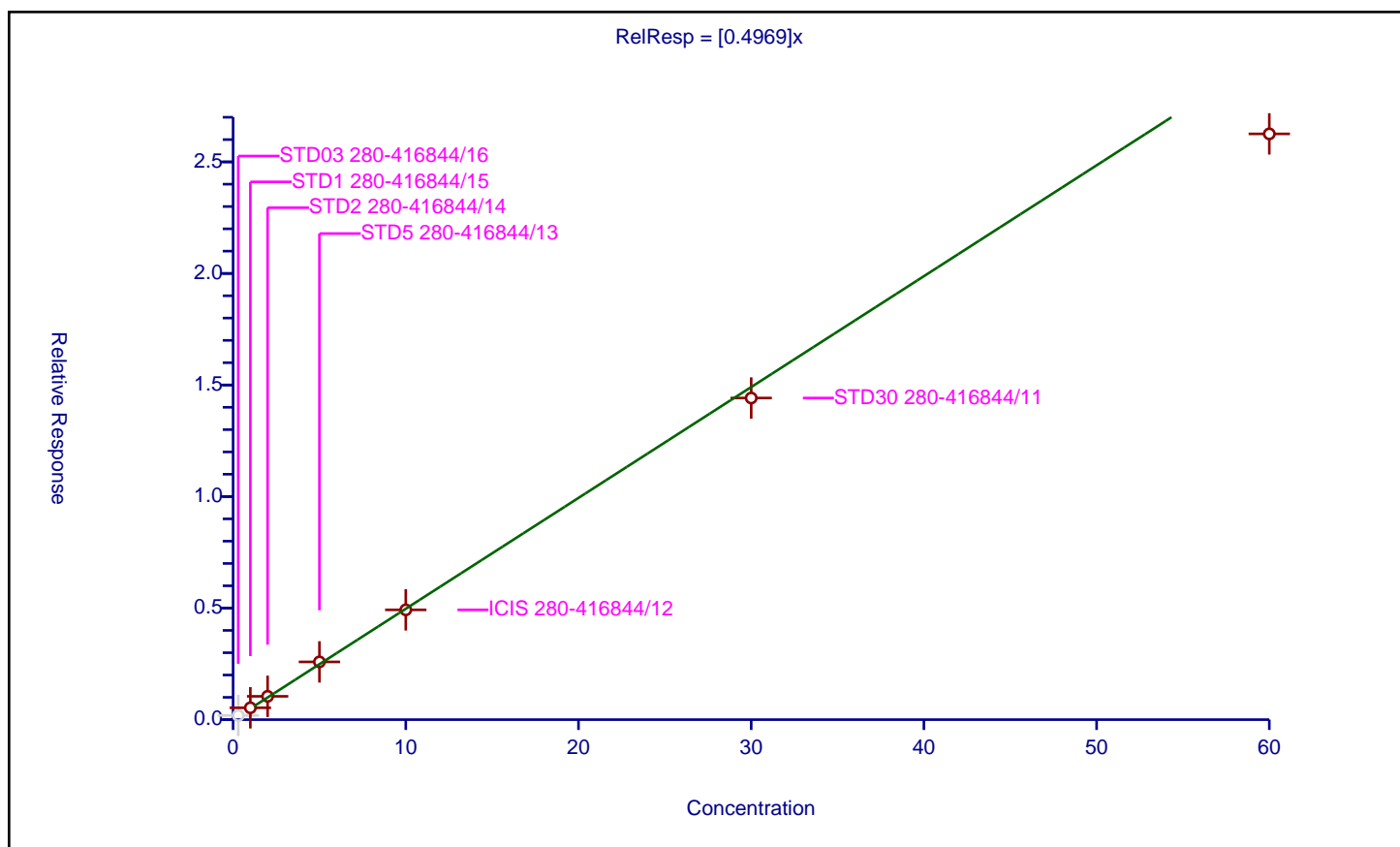
## Curve Coefficients

Intercept: 0  
 Slope: 0.4969

## Error Coefficients

Standard Error: 1110000  
 Relative Standard Error: 7.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.992

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.187437	12.5	1034682.0	0.624789	N
2	STD1 280-416844/15	1.0	0.530653	12.5	1019333.0	0.530653	Y
3	STD2 280-416844/14	2.0	1.04588	12.5	1080358.0	0.52294	Y
4	STD5 280-416844/13	5.0	2.588404	12.5	1050580.0	0.517681	Y
5	ICIS 280-416844/12	10.0	4.921216	12.5	1075720.0	0.492122	Y
6	STD30 280-416844/11	30.0	14.4164	12.5	984385.0	0.480547	Y
7	STD60 280-416844/10	60.0	26.25616	12.5	1022372.0	0.437603	Y





## Calibration

/ 1,2-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

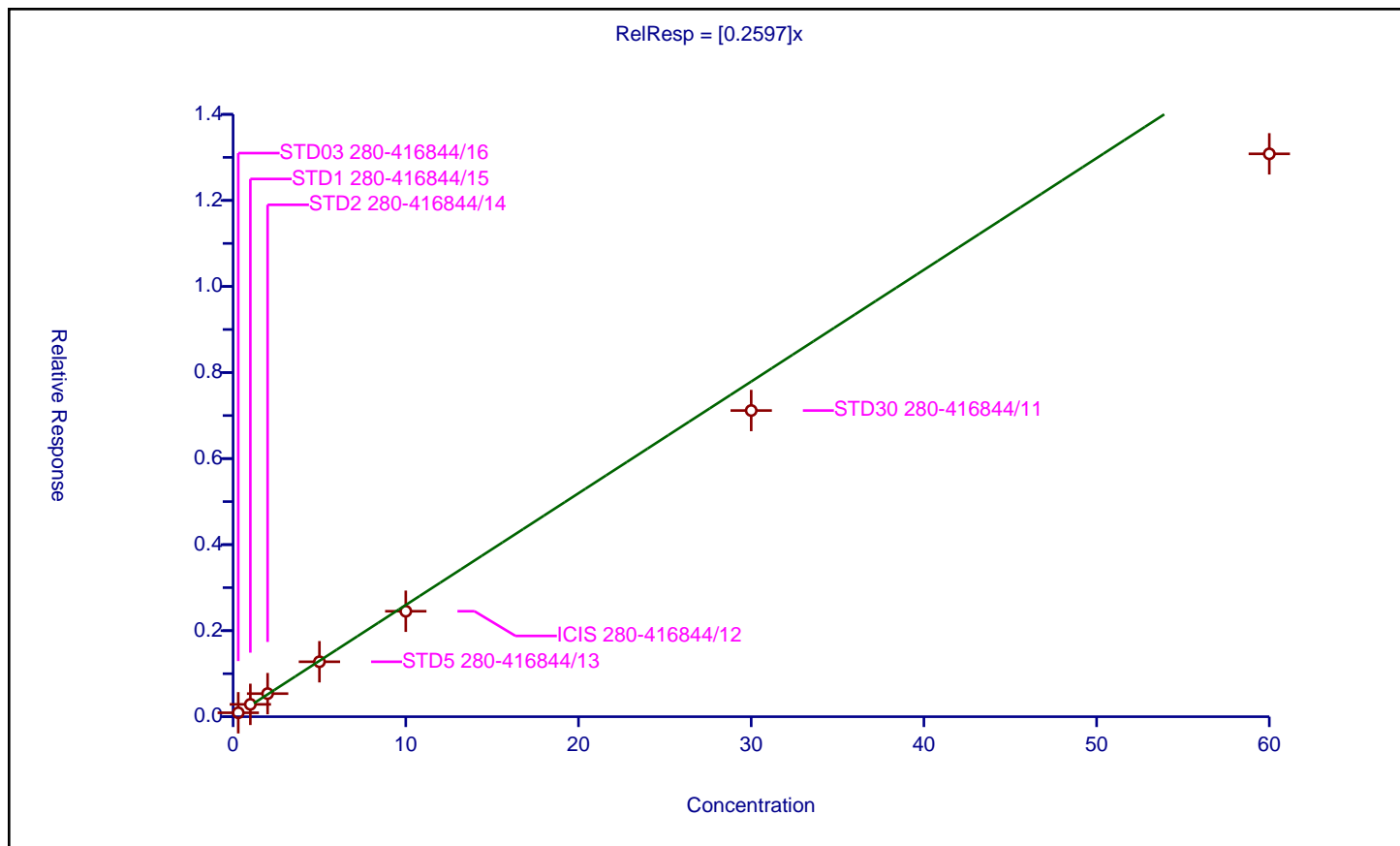
### Curve Coefficients

Intercept: 0  
 Slope: 0.2597

### Error Coefficients

Standard Error: 503000  
 Relative Standard Error: 11.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.091828	12.5	1034682.0	0.306092	Y
2	STD1 280-416844/15	1.0	0.287296	12.5	1019333.0	0.287296	Y
3	STD2 280-416844/14	2.0	0.536767	12.5	1080358.0	0.268383	Y
4	STD5 280-416844/13	5.0	1.277378	12.5	1050580.0	0.255476	Y
5	ICIS 280-416844/12	10.0	2.451219	12.5	1075720.0	0.245122	Y
6	STD30 280-416844/11	30.0	7.116334	12.5	984385.0	0.237211	Y
7	STD60 280-416844/10	60.0	13.082335	12.5	1022372.0	0.218039	Y





# Calibration

/ 1,4-Dioxane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

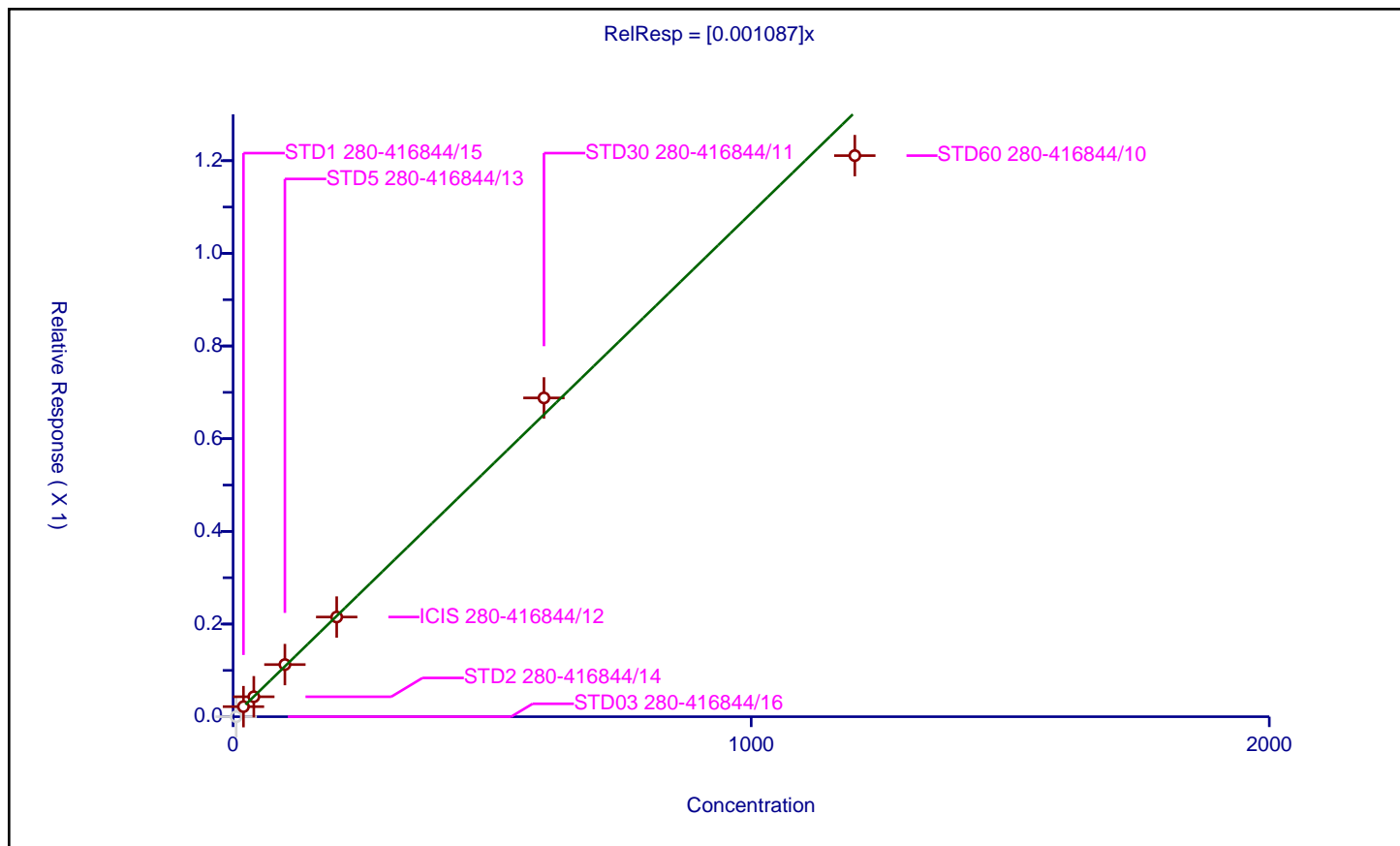
## Curve Coefficients

Intercept: 0  
 Slope: 0.001087

## Error Coefficients

Standard Error: 51400  
 Relative Standard Error: 4.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.997

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	6.0	0.0	12.5	1034682.0	0.0	N
2	STD1 280-416844/15	20.0	0.021742	12.5	1019333.0	0.001087	Y
3	STD2 280-416844/14	40.0	0.043099	12.5	1080358.0	0.001077	Y
4	STD5 280-416844/13	100.0	0.112545	12.5	1050580.0	0.001125	Y
5	ICIS 280-416844/12	200.0	0.215135	12.5	1075720.0	0.001076	Y
6	STD30 280-416844/11	600.0	0.688057	12.5	984385.0	0.001147	Y
7	STD60 280-416844/10	1200.0	1.210983	12.5	1022372.0	0.001009	Y





## Calibration

/ Dibromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

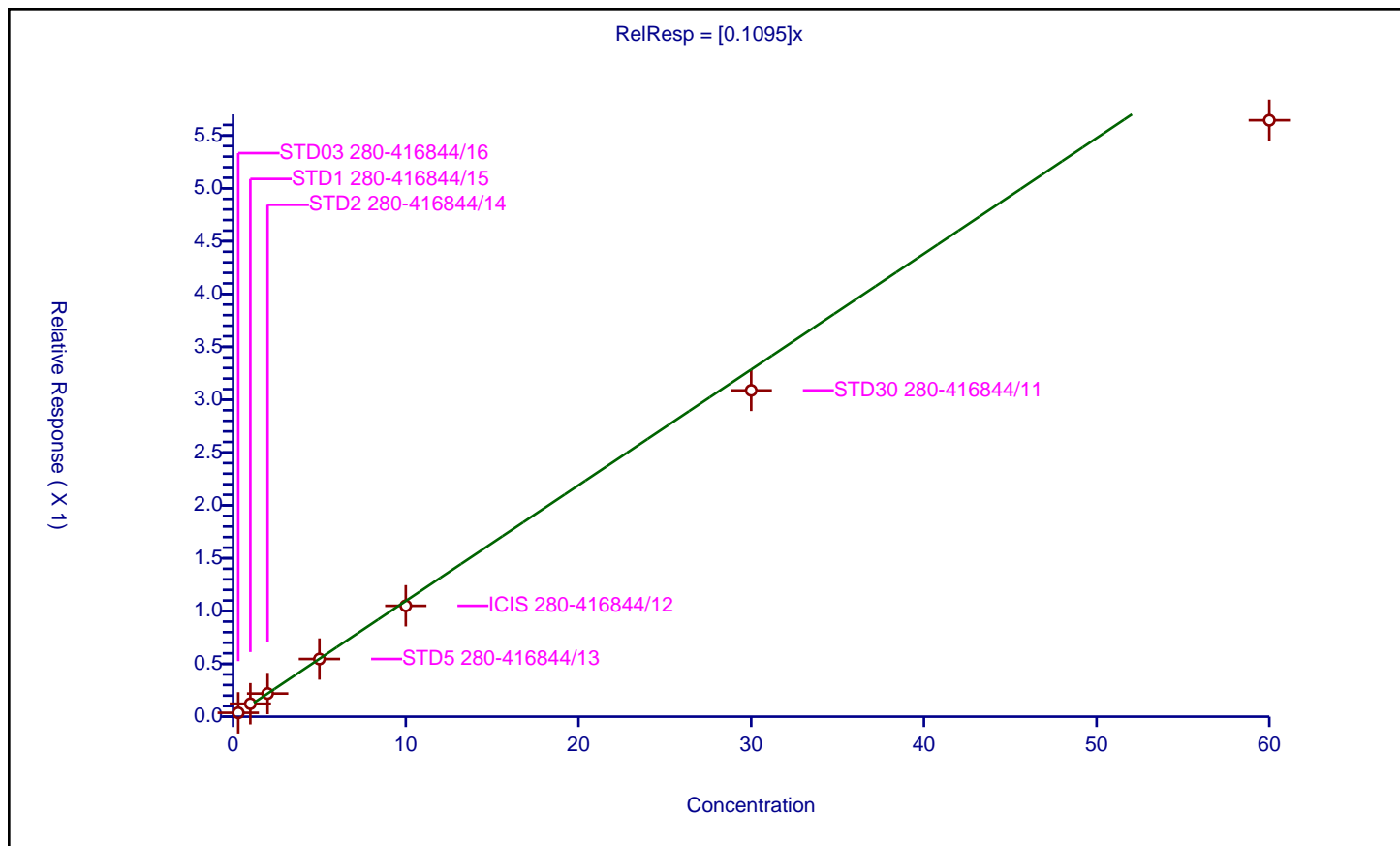
### Curve Coefficients

Intercept: 0  
 Slope: 0.1095

### Error Coefficients

Standard Error: 217000  
 Relative Standard Error: 9.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.036871	12.5	1034682.0	0.122904	Y
2	STD1 280-416844/15	1.0	0.122936	12.5	1019333.0	0.122936	Y
3	STD2 280-416844/14	2.0	0.219279	12.5	1080358.0	0.10964	Y
4	STD5 280-416844/13	5.0	0.545829	12.5	1050580.0	0.109166	Y
5	ICIS 280-416844/12	10.0	1.049634	12.5	1075720.0	0.104963	Y
6	STD30 280-416844/11	30.0	3.088121	12.5	984385.0	0.102937	Y
7	STD60 280-416844/10	60.0	5.644203	12.5	1022372.0	0.09407	Y





## Calibration

/ Dichlorobromomethane

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

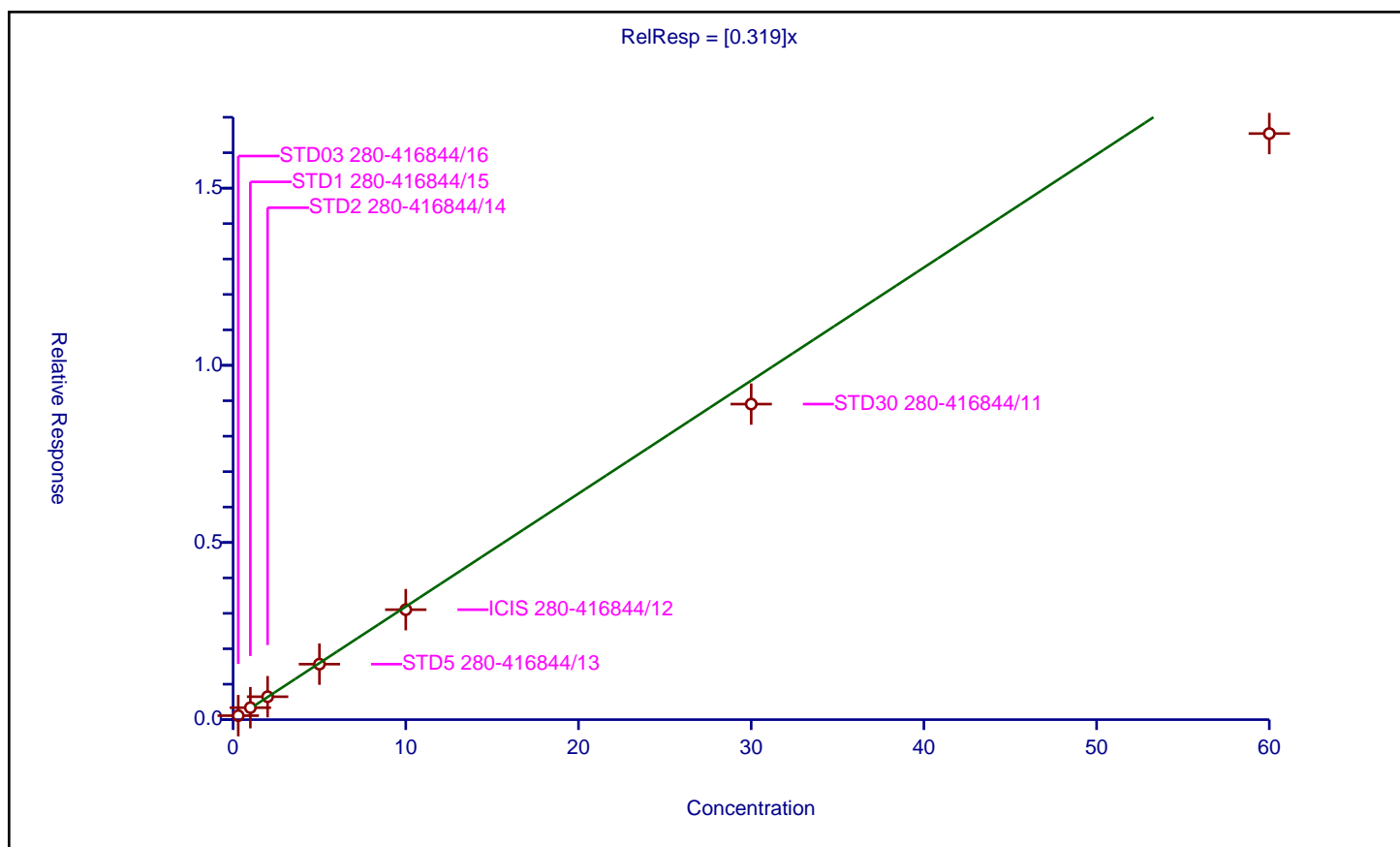
## Curve Coefficients

Intercept: 0  
Slope: 0.319

## Error Coefficients

Standard Error: 634000  
Relative Standard Error: 9.9  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.112559	12.5	1034682.0	0.375196	Y
2	STD1 280-416844/15	1.0	0.338089	12.5	1019333.0	0.338089	Y
3	STD2 280-416844/14	2.0	0.647147	12.5	1080358.0	0.323573	Y
4	STD5 280-416844/13	5.0	1.565897	12.5	1050580.0	0.313179	Y
5	ICIS 280-416844/12	10.0	3.103851	12.5	1075720.0	0.310385	Y
6	STD30 280-416844/11	30.0	8.905319	12.5	984385.0	0.296844	Y
7	STD60 280-416844/10	60.0	16.540347	12.5	1022372.0	0.275672	Y





## Calibration

/ 2-Chloroethyl vinyl ether

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

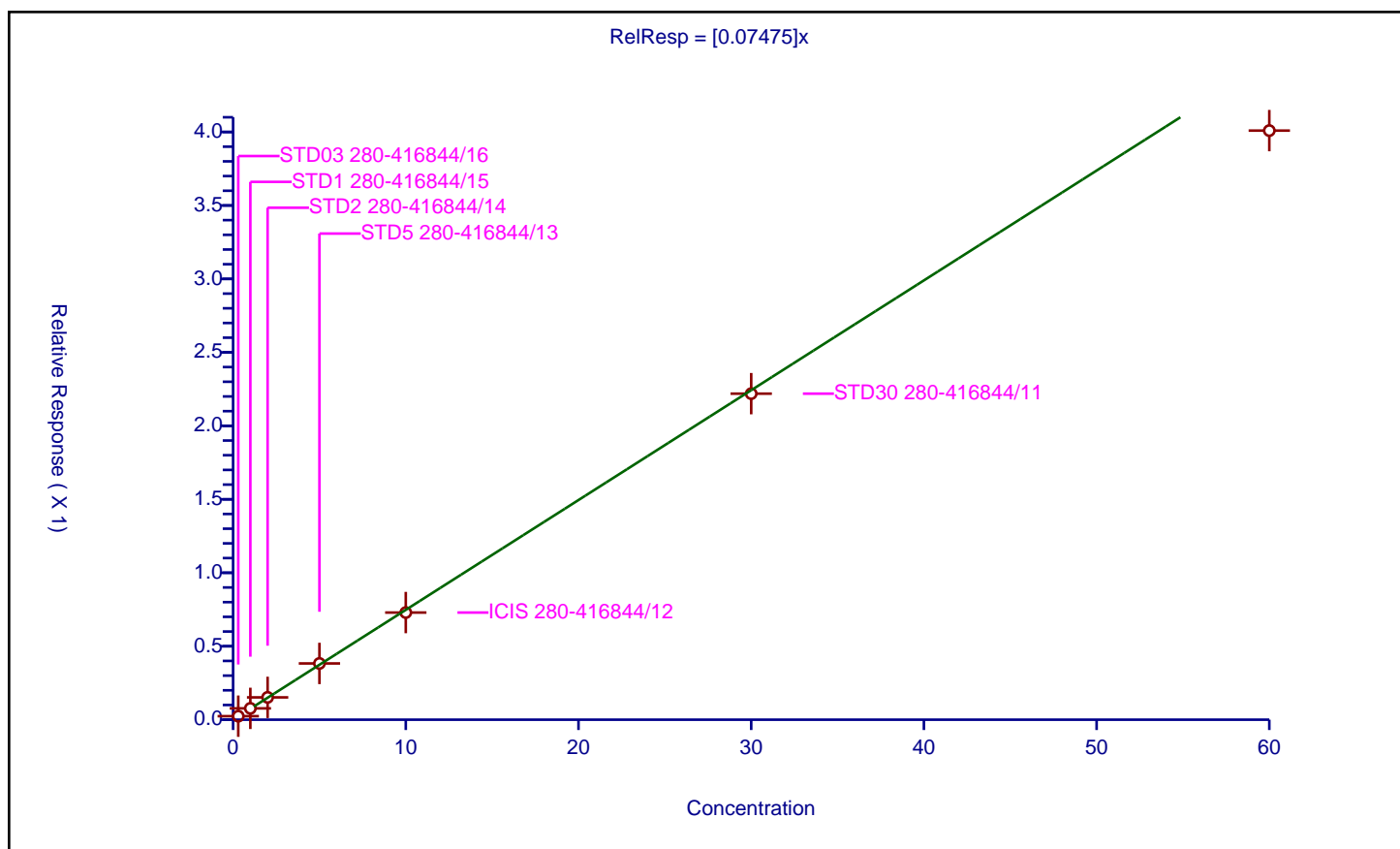
## Curve Coefficients

Intercept: 0  
Slope: 0.07475

## Error Coefficients

Standard Error: 155000  
Relative Standard Error: 5.6  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.023969	12.5	1034682.0	0.079896	Y
2	STD1 280-416844/15	1.0	0.077134	12.5	1019333.0	0.077134	Y
3	STD2 280-416844/14	2.0	0.151871	12.5	1080358.0	0.075935	Y
4	STD5 280-416844/13	5.0	0.382812	12.5	1050580.0	0.076562	Y
5	ICIS 280-416844/12	10.0	0.729128	12.5	1075720.0	0.072913	Y
6	STD30 280-416844/11	30.0	2.218974	12.5	984385.0	0.073966	Y
7	STD60 280-416844/10	60.0	4.009353	12.5	1022372.0	0.066823	Y





Calibration

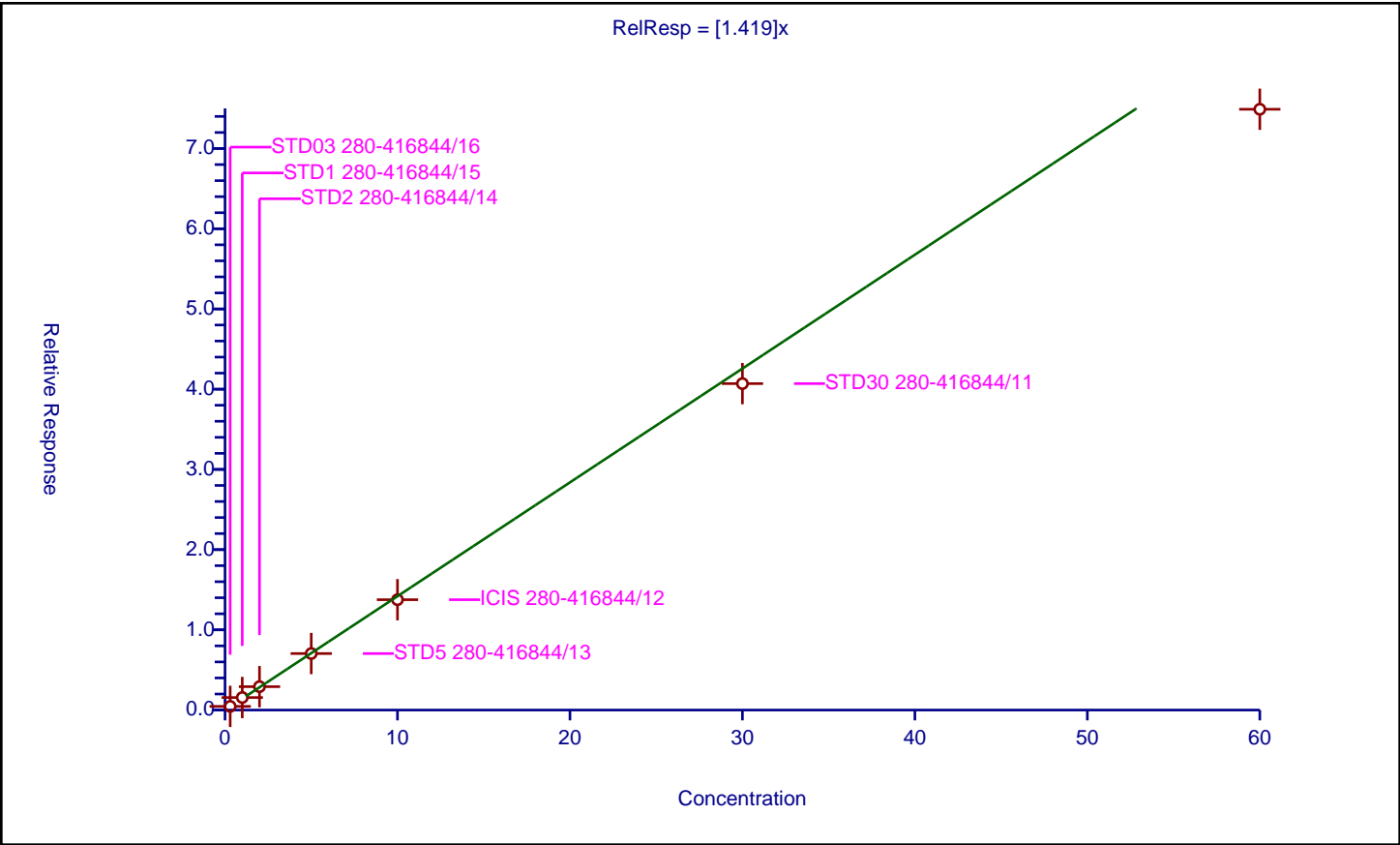
/ cis-1,3-Dichloropropene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

Curve Coefficients	
Intercept:	0
Slope:	1.419

Error Coefficients	
Standard Error:	696000
Relative Standard Error:	7.5
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.457058	12.5	257845.0	1.523525	Y
2	STD1 280-416844/15	1.0	1.561554	12.5	255939.0	1.561554	Y
3	STD2 280-416844/14	2.0	2.917502	12.5	272382.0	1.458751	Y
4	STD5 280-416844/13	5.0	7.044706	12.5	264225.0	1.408941	Y
5	ICIS 280-416844/12	10.0	13.757464	12.5	267115.0	1.375746	Y
6	STD30 280-416844/11	30.0	40.695749	12.5	240331.0	1.356525	Y
7	STD60 280-416844/10	60.0	74.894991	12.5	246407.0	1.24825	Y





## Calibration

/ 4-Methyl-2-pentanone (MIBK)

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

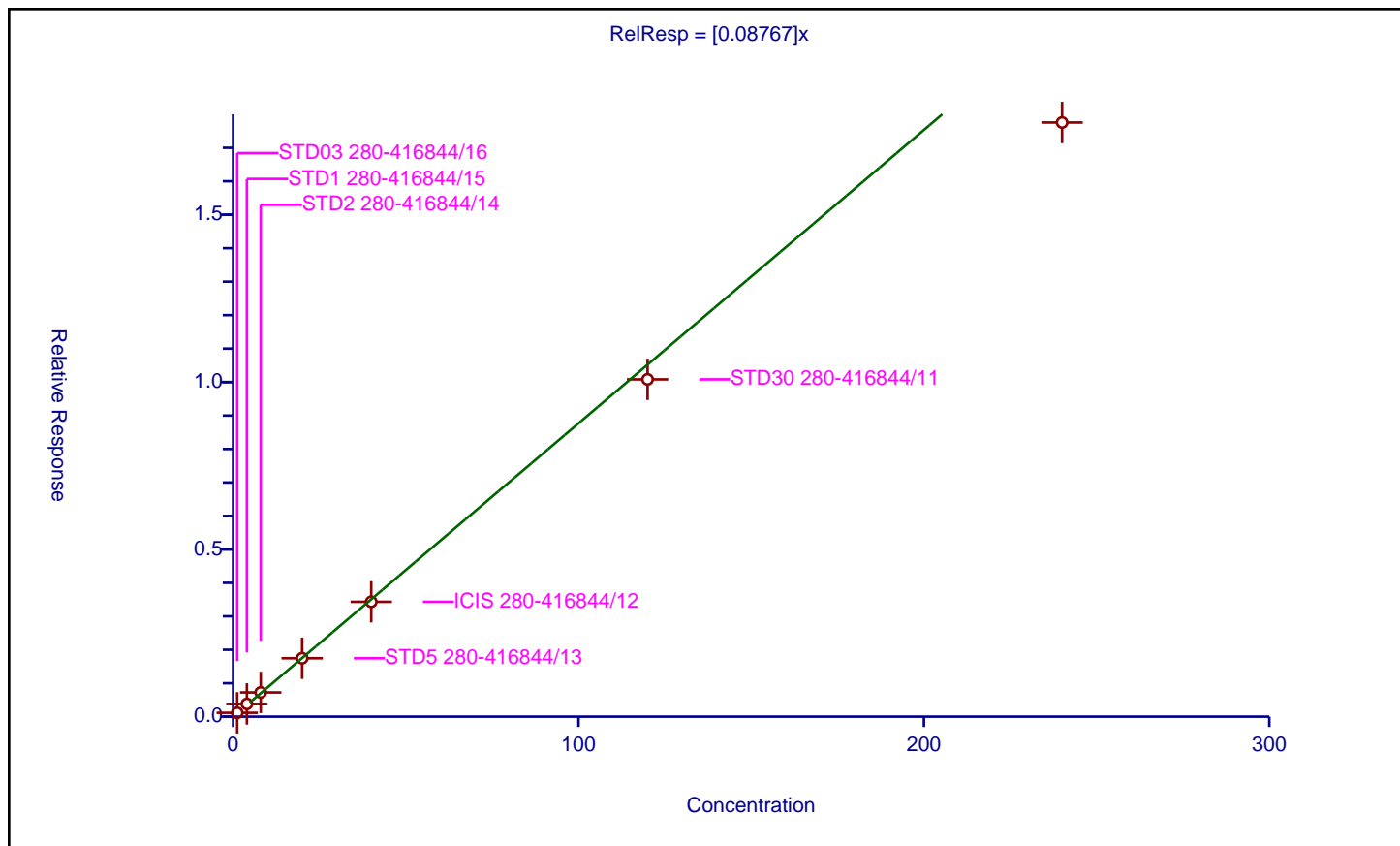
### Curve Coefficients

Intercept: 0  
 Slope: 0.08767

### Error Coefficients

Standard Error: 690000  
 Relative Standard Error: 8.7  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.115748	12.5	1034682.0	0.096457	Y
2	STD1 280-416844/15	4.0	0.381941	12.5	1019333.0	0.095485	Y
3	STD2 280-416844/14	8.0	0.724667	12.5	1080358.0	0.090583	Y
4	STD5 280-416844/13	20.0	1.746761	12.5	1050580.0	0.087338	Y
5	ICIS 280-416844/12	40.0	3.433538	12.5	1075720.0	0.085838	Y
6	STD30 280-416844/11	120.0	10.081256	12.5	984385.0	0.08401	Y
7	STD60 280-416844/10	240.0	17.756636	12.5	1022372.0	0.073986	Y





# Calibration

/ Toluene-d8 (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

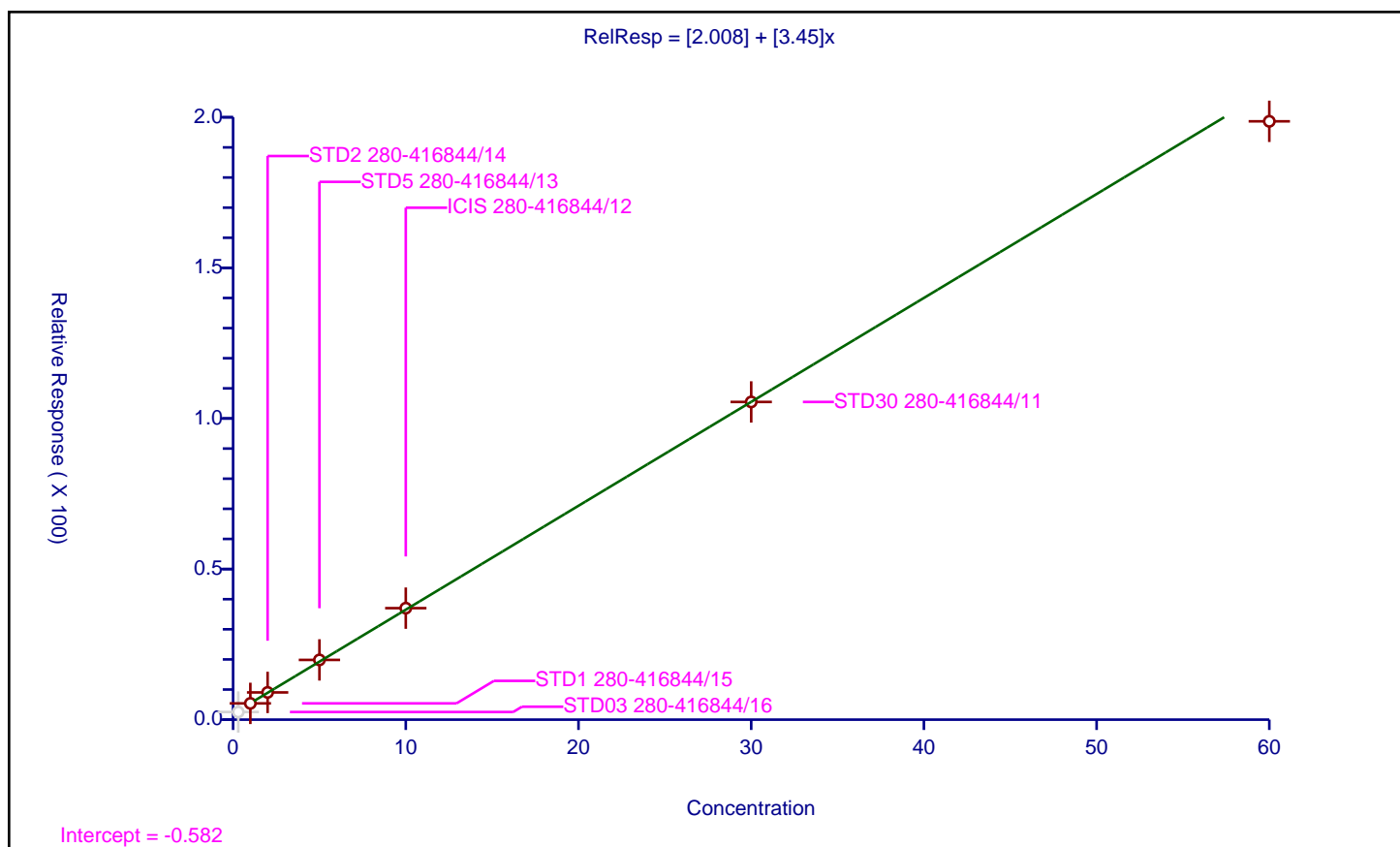
## Curve Coefficients

Intercept: 2.008  
 Slope: 3.45

## Error Coefficients

Standard Error: 2250000  
 Relative Standard Error: 3.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	2.535438	12.5	257845.0	8.45146	N
2	STD1 280-416844/15	1.0	5.400017	12.5	255939.0	5.400017	Y
3	STD2 280-416844/14	2.0	9.040383	12.5	272382.0	4.520191	Y
4	STD5 280-416844/13	5.0	19.835604	12.5	264225.0	3.967121	Y
5	ICIS 280-416844/12	10.0	37.015845	12.5	267115.0	3.701585	Y
6	STD30 280-416844/11	30.0	105.47963	12.5	240331.0	3.515988	Y
7	STD60 280-416844/10	60.0	198.656339	12.5	246407.0	3.310939	Y





# Calibration

/ Toluene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

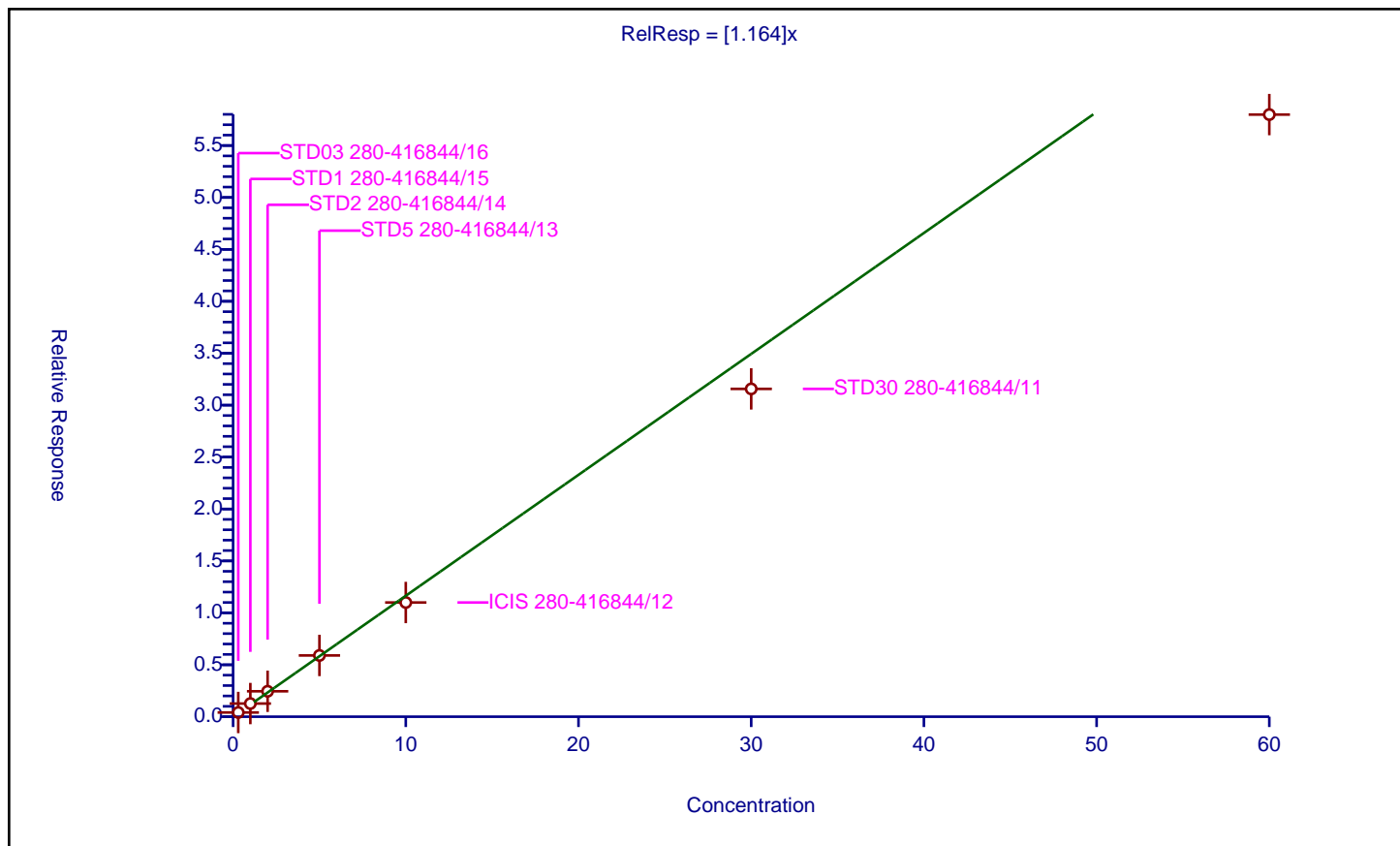
## Curve Coefficients

Intercept: 0  
 Slope: 1.164

## Error Coefficients

Standard Error: 2230000  
 Relative Standard Error: 11.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.407927	12.5	1034682.0	1.359758	Y
2	STD1 280-416844/15	1.0	1.268881	12.5	1019333.0	1.268881	Y
3	STD2 280-416844/14	2.0	2.449454	12.5	1080358.0	1.224727	Y
4	STD5 280-416844/13	5.0	5.897992	12.5	1050580.0	1.179598	Y
5	ICIS 280-416844/12	10.0	10.996925	12.5	1075720.0	1.099693	Y
6	STD30 280-416844/11	30.0	31.564517	12.5	984385.0	1.052151	Y
7	STD60 280-416844/10	60.0	57.979764	12.5	1022372.0	0.966329	Y





# Calibration

/ Ethyl methacrylate

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

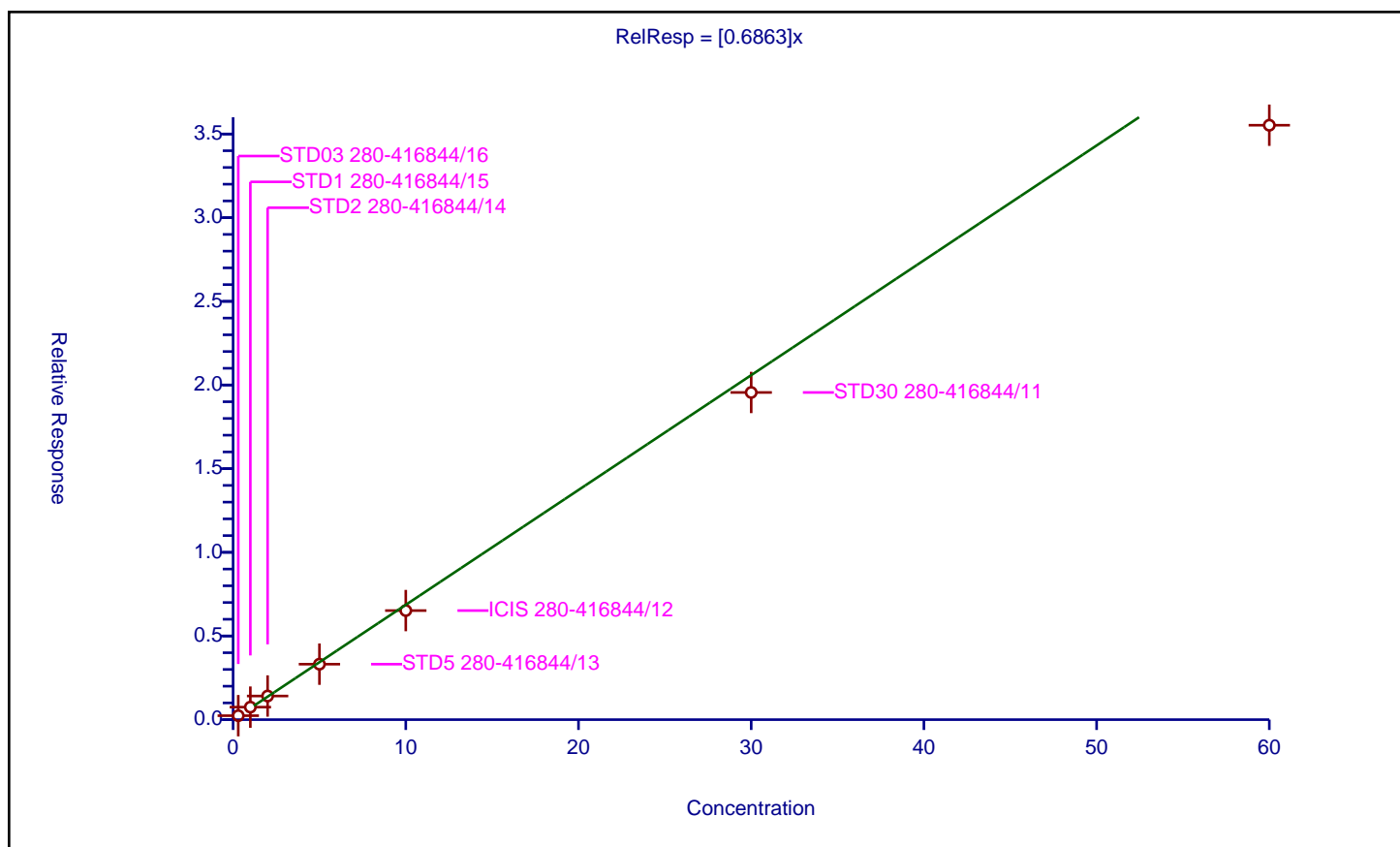
## Curve Coefficients

Intercept: 0  
 Slope: 0.6863

## Error Coefficients

Standard Error: 331000  
 Relative Standard Error: 9.8  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.237303	12.5	257845.0	0.791011	Y
2	STD1 280-416844/15	1.0	0.747639	12.5	255939.0	0.747639	Y
3	STD2 280-416844/14	2.0	1.412951	12.5	272382.0	0.706476	Y
4	STD5 280-416844/13	5.0	3.314883	12.5	264225.0	0.662977	Y
5	ICIS 280-416844/12	10.0	6.518587	12.5	267115.0	0.651859	Y
6	STD30 280-416844/11	30.0	19.553761	12.5	240331.0	0.651792	Y
7	STD60 280-416844/10	60.0	35.524356	12.5	246407.0	0.592073	Y





## Calibration

/ trans-1,3-Dichloropropene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

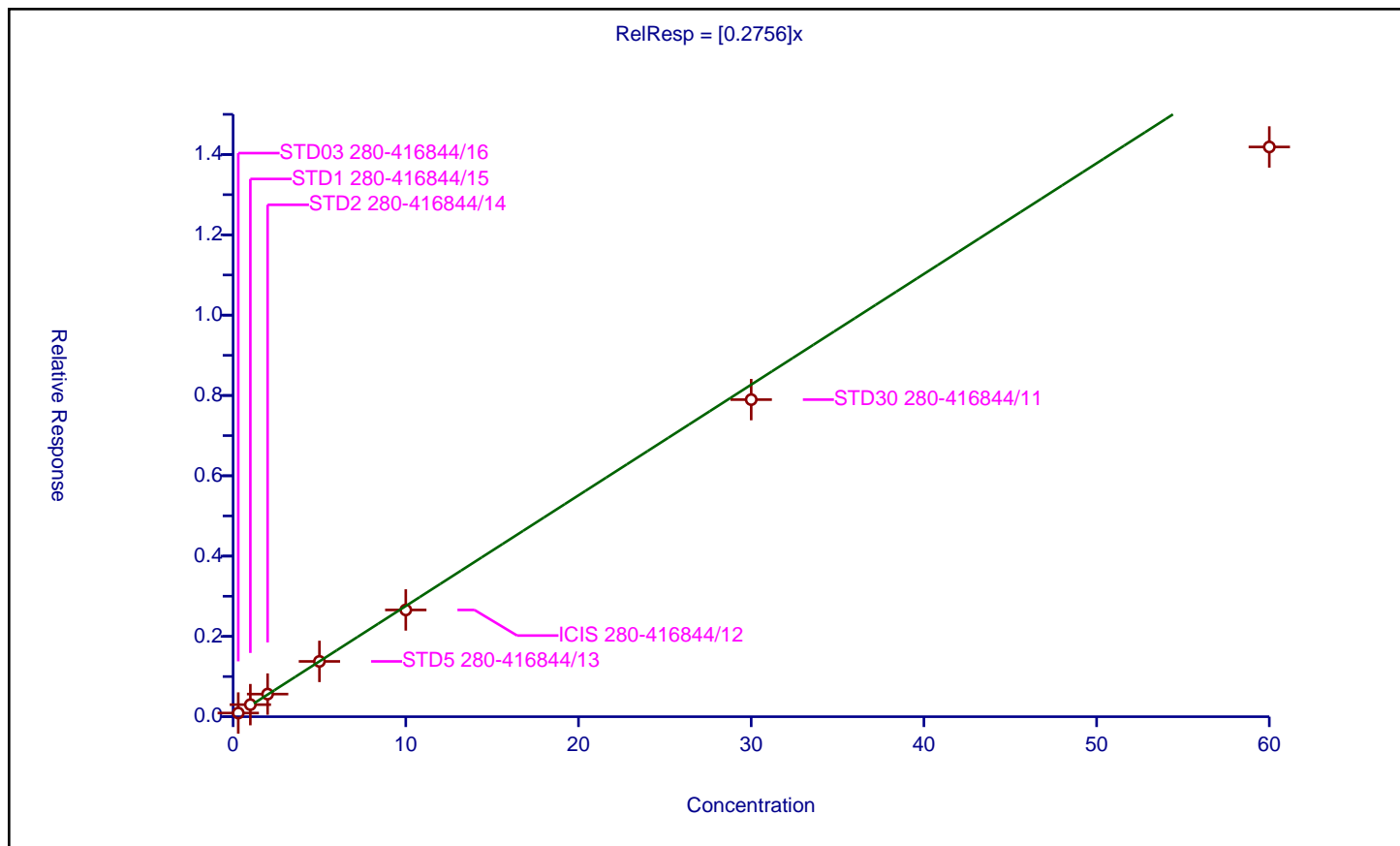
### Curve Coefficients

Intercept: 0  
 Slope: 0.2756

### Error Coefficients

Standard Error: 548000  
 Relative Standard Error: 8.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.09184	12.5	1034682.0	0.306133	Y
2	STD1 280-416844/15	1.0	0.30065	12.5	1019333.0	0.30065	Y
3	STD2 280-416844/14	2.0	0.563228	12.5	1080358.0	0.281614	Y
4	STD5 280-416844/13	5.0	1.377239	12.5	1050580.0	0.275448	Y
5	ICIS 280-416844/12	10.0	2.658766	12.5	1075720.0	0.265877	Y
6	STD30 280-416844/11	30.0	7.89672	12.5	984385.0	0.263224	Y
7	STD60 280-416844/10	60.0	14.187974	12.5	1022372.0	0.236466	Y





# Calibration

/ 1,1,2-Trichloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

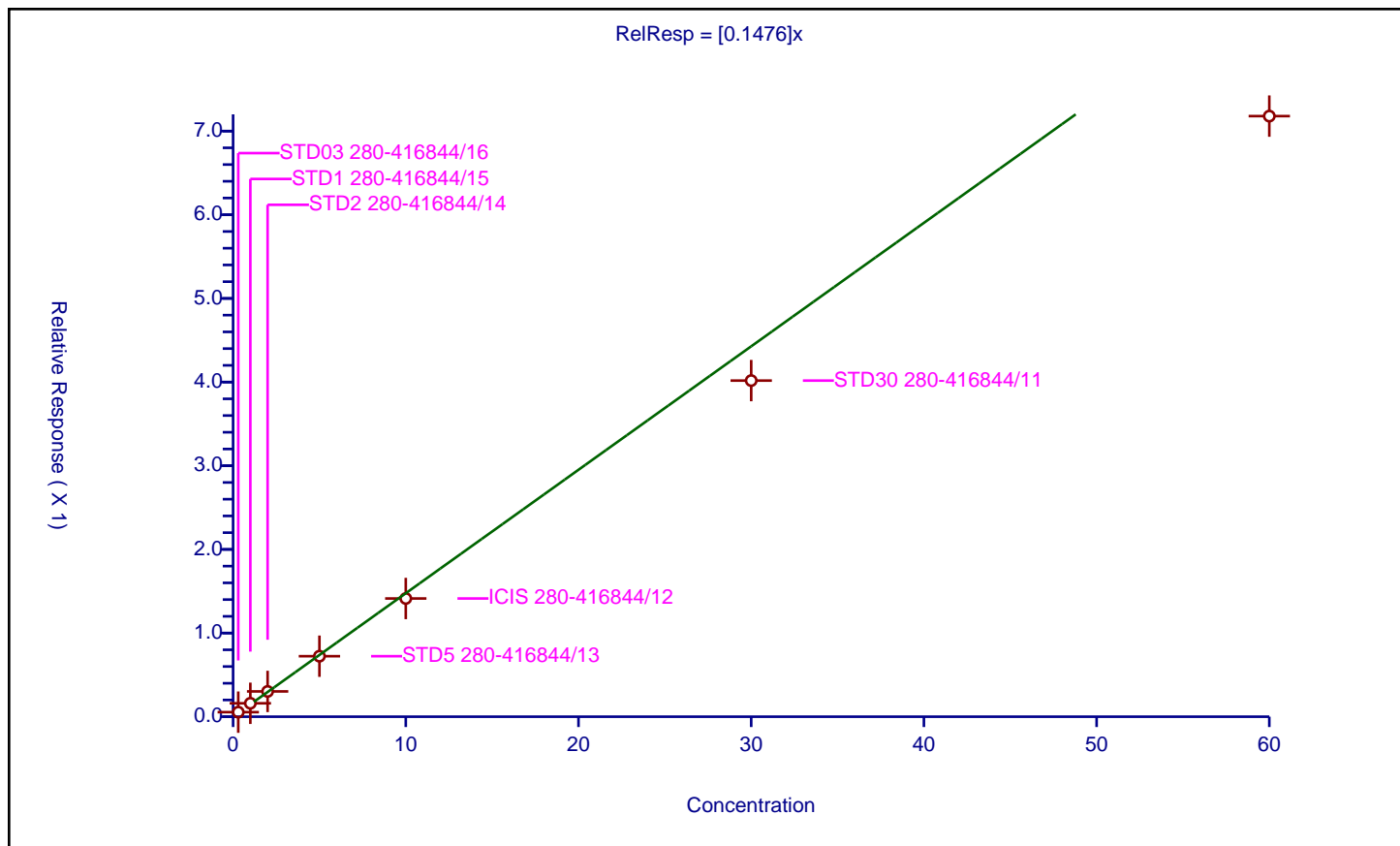
## Curve Coefficients

Intercept: 0  
 Slope: 0.1476

## Error Coefficients

Standard Error: 278000  
 Relative Standard Error: 13.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.974

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.05457	12.5	1034682.0	0.1819	Y
2	STD1 280-416844/15	1.0	0.160485	12.5	1019333.0	0.160485	Y
3	STD2 280-416844/14	2.0	0.302145	12.5	1080358.0	0.151073	Y
4	STD5 280-416844/13	5.0	0.723422	12.5	1050580.0	0.144684	Y
5	ICIS 280-416844/12	10.0	1.413158	12.5	1075720.0	0.141316	Y
6	STD30 280-416844/11	30.0	4.017508	12.5	984385.0	0.133917	Y
7	STD60 280-416844/10	60.0	7.179016	12.5	1022372.0	0.11965	Y





# Calibration

/ 2-Hexanone

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

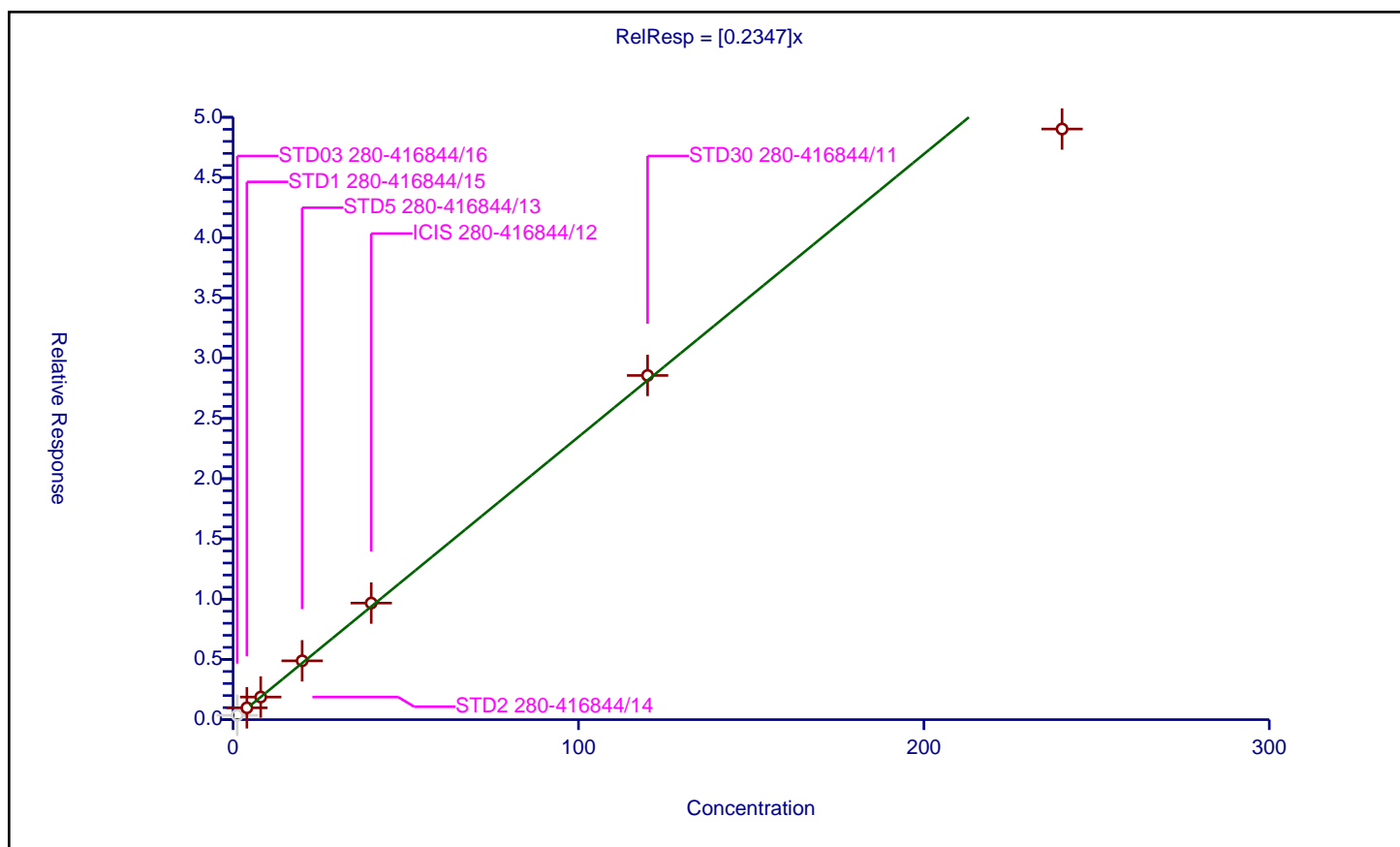
## Curve Coefficients

Intercept: 0  
 Slope: 0.2347

## Error Coefficients

Standard Error: 508000  
 Relative Standard Error: 6.6  
 Correlation Coefficient: 0.995  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	1.2	0.36233	12.5	257845.0	0.301942	N
2	STD1 280-416844/15	4.0	0.981875	12.5	255939.0	0.245469	Y
3	STD2 280-416844/14	8.0	1.87595	12.5	272382.0	0.234494	Y
4	STD5 280-416844/13	20.0	4.882628	12.5	264225.0	0.244131	Y
5	ICIS 280-416844/12	40.0	9.675046	12.5	267115.0	0.241876	Y
6	STD30 280-416844/11	120.0	28.570388	12.5	240331.0	0.238087	Y
7	STD60 280-416844/10	240.0	49.024074	12.5	246407.0	0.204267	Y





# Calibration

/ Tetrachloroethene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

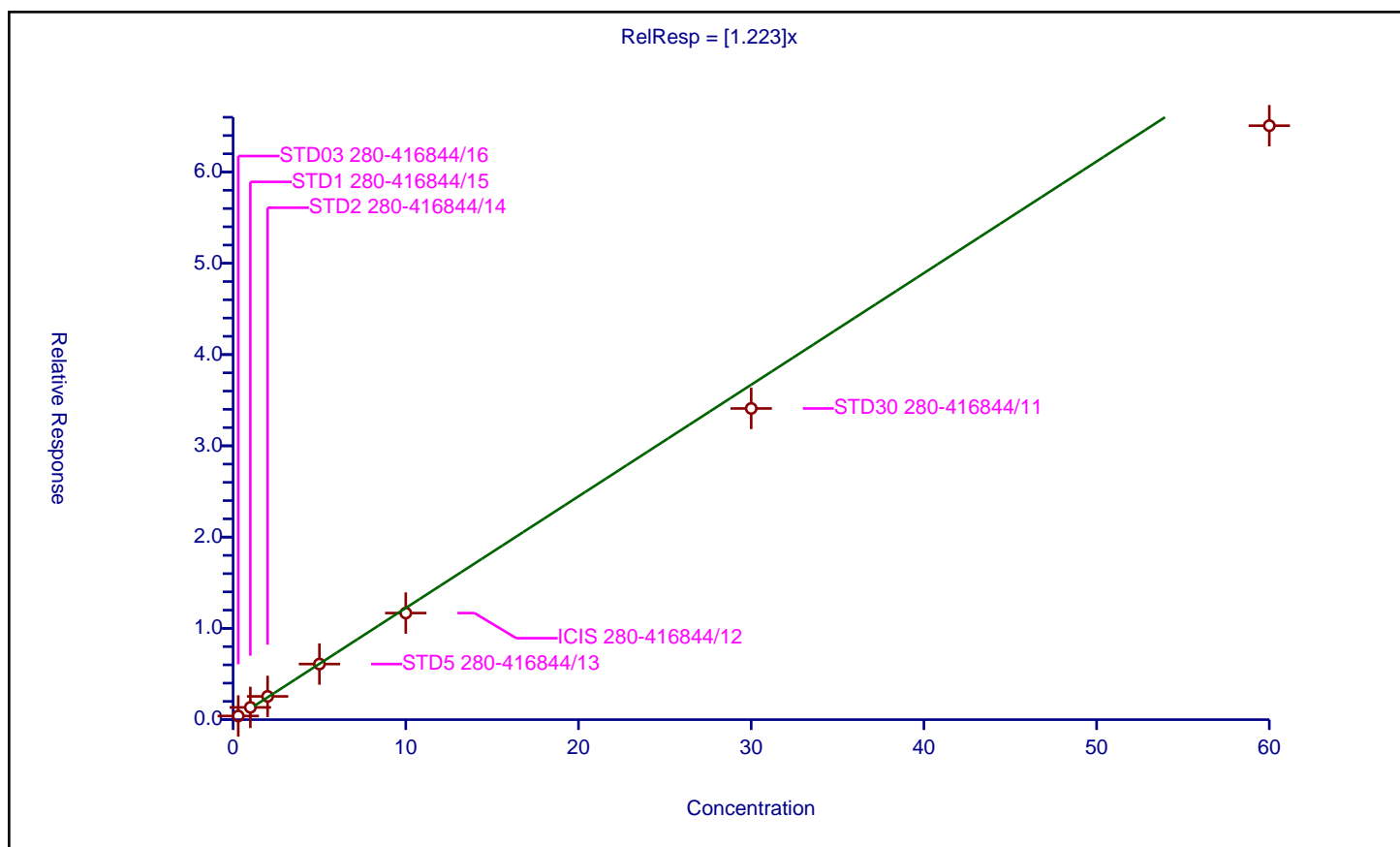
## Curve Coefficients

Intercept: 0  
 Slope: 1.223

## Error Coefficients

Standard Error: 600000  
 Relative Standard Error: 8.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.40058	12.5	257845.0	1.335266	Y
2	STD1 280-416844/15	1.0	1.344705	12.5	255939.0	1.344705	Y
3	STD2 280-416844/14	2.0	2.549544	12.5	272382.0	1.274772	Y
4	STD5 280-416844/13	5.0	6.092393	12.5	264225.0	1.218479	Y
5	ICIS 280-416844/12	10.0	11.678116	12.5	267115.0	1.167812	Y
6	STD30 280-416844/11	30.0	34.096309	12.5	240331.0	1.136544	Y
7	STD60 280-416844/10	60.0	65.078661	12.5	246407.0	1.084644	Y





## Calibration

/ 1,3-Dichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

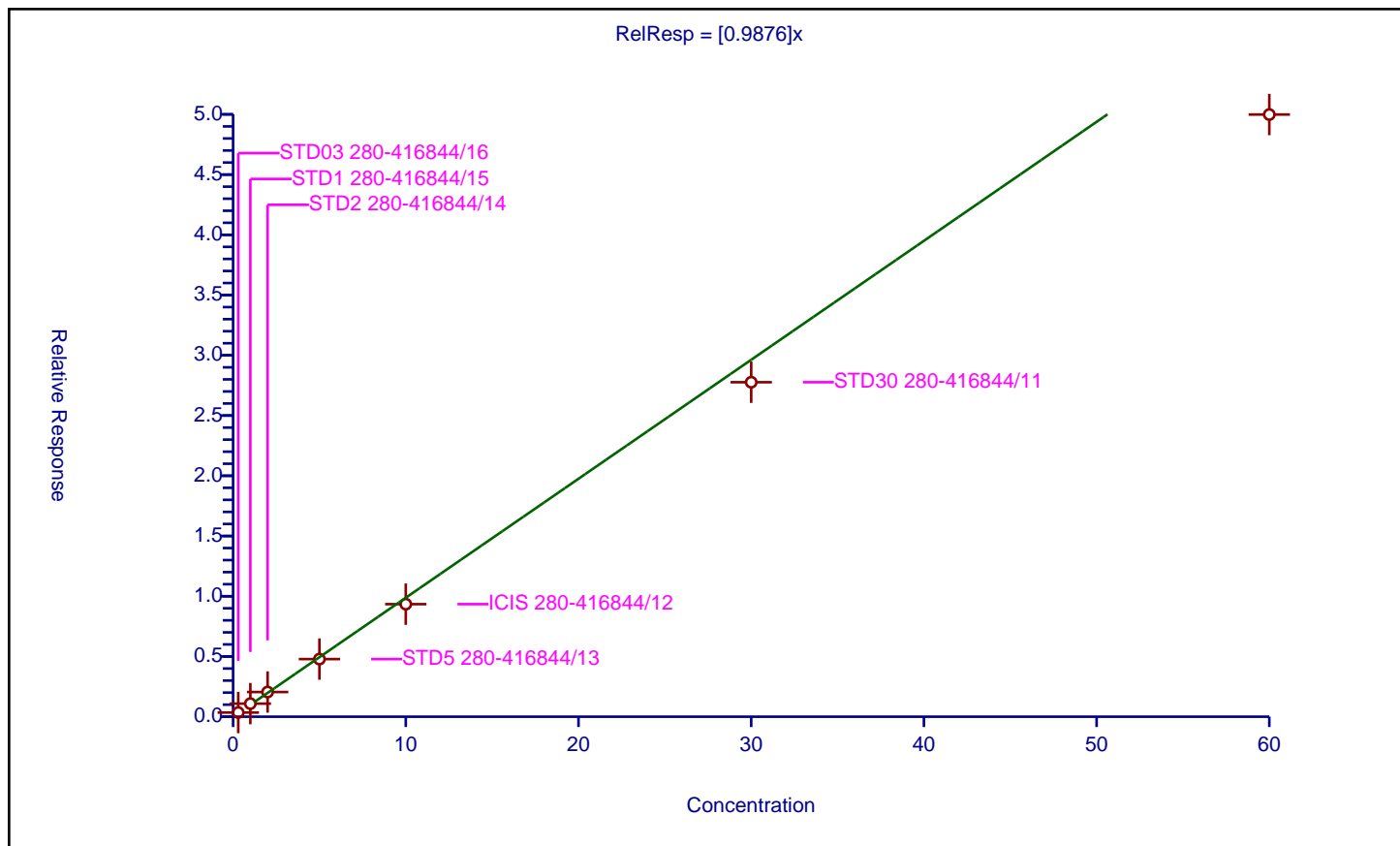
### Curve Coefficients

Intercept: 0  
 Slope: 0.9876

### Error Coefficients

Standard Error: 467000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.345363	12.5	257845.0	1.151208	Y
2	STD1 280-416844/15	1.0	1.087271	12.5	255939.0	1.087271	Y
3	STD2 280-416844/14	2.0	2.050383	12.5	272382.0	1.025192	Y
4	STD5 280-416844/13	5.0	4.782524	12.5	264225.0	0.956505	Y
5	ICIS 280-416844/12	10.0	9.342746	12.5	267115.0	0.934275	Y
6	STD30 280-416844/11	30.0	27.764105	12.5	240331.0	0.92547	Y
7	STD60 280-416844/10	60.0	49.986202	12.5	246407.0	0.833103	Y





# Calibration

/ Chlorodibromomethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

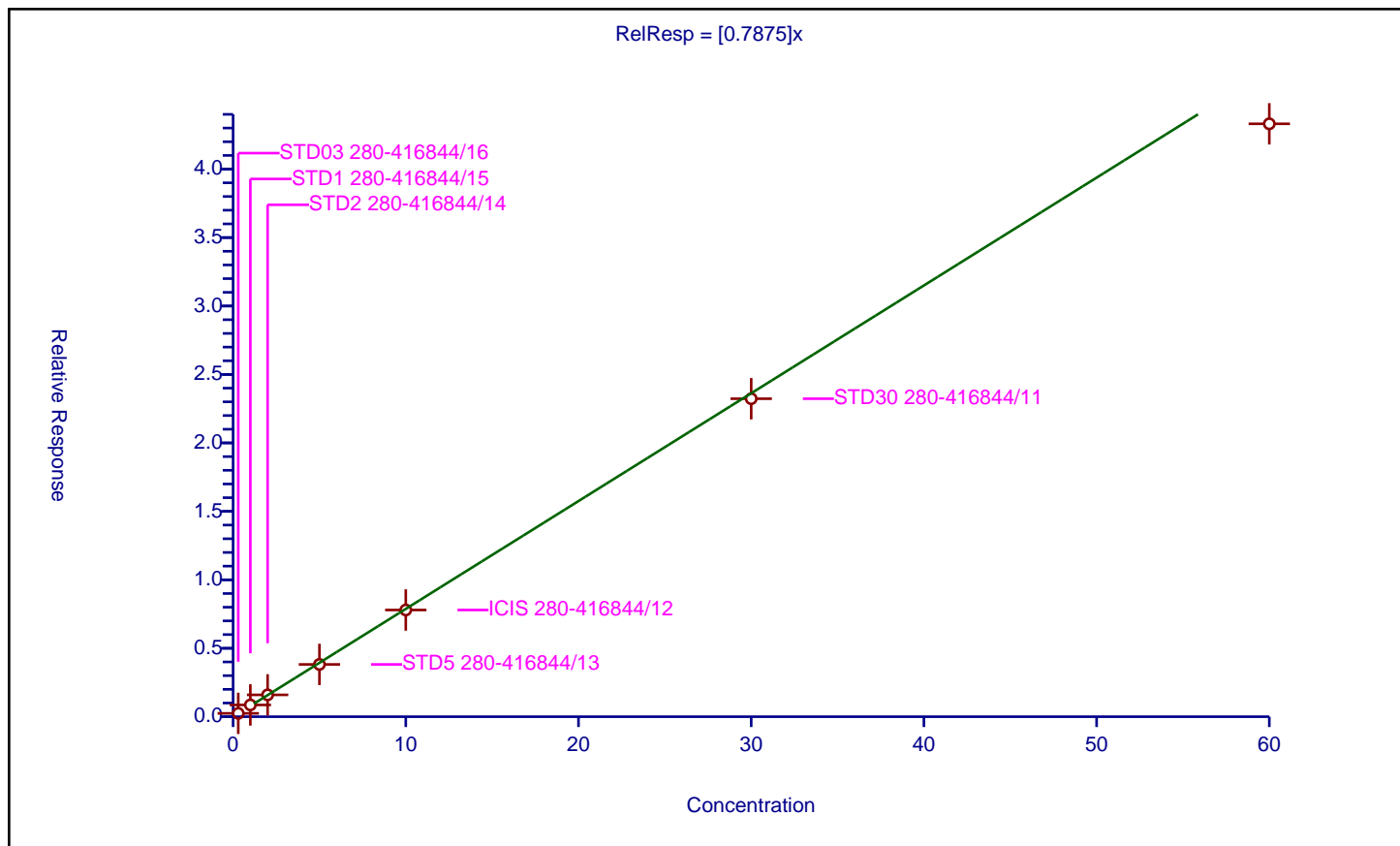
## Curve Coefficients

Intercept: 0  
 Slope: 0.7875

## Error Coefficients

Standard Error: 401000  
 Relative Standard Error: 5.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.244769	12.5	257845.0	0.815897	Y
2	STD1 280-416844/15	1.0	0.859336	12.5	255939.0	0.859336	Y
3	STD2 280-416844/14	2.0	1.595737	12.5	272382.0	0.797868	Y
4	STD5 280-416844/13	5.0	3.82056	12.5	264225.0	0.764112	Y
5	ICIS 280-416844/12	10.0	7.794489	12.5	267115.0	0.779449	Y
6	STD30 280-416844/11	30.0	23.229109	12.5	240331.0	0.774304	Y
7	STD60 280-416844/10	60.0	43.31061	12.5	246407.0	0.721844	Y





## Calibration

/ Ethylene Dibromide

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

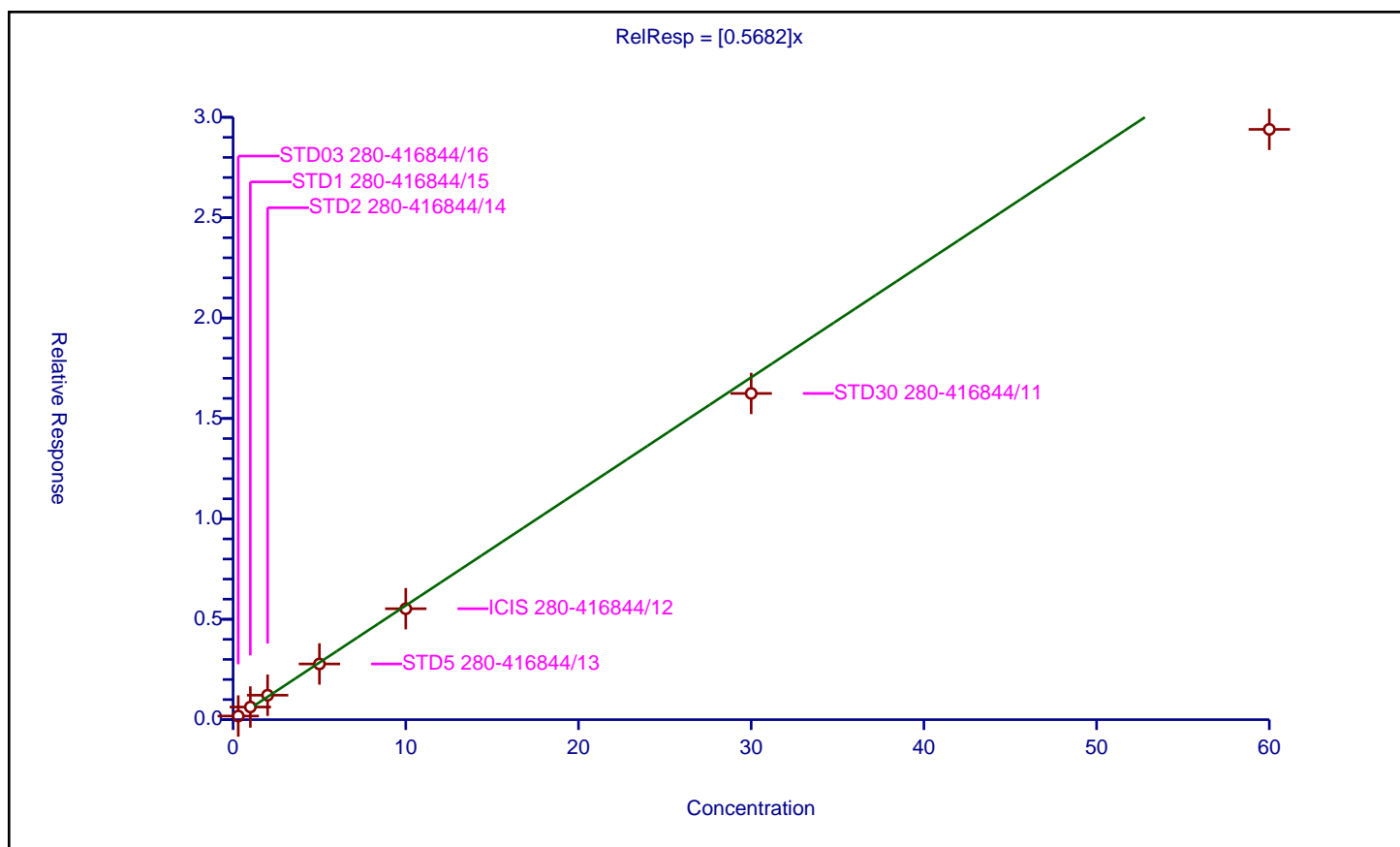
## Curve Coefficients

Intercept: 0  
Slope: 0.5682

## Error Coefficients

Standard Error: 274000  
Relative Standard Error: 8.4  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.991

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.180583	12.5	257845.0	0.601944	Y
2	STD1 280-416844/15	1.0	0.628763	12.5	255939.0	0.628763	Y
3	STD2 280-416844/14	2.0	1.216811	12.5	272382.0	0.608406	Y
4	STD5 280-416844/13	5.0	2.773063	12.5	264225.0	0.554613	Y
5	ICIS 280-416844/12	10.0	5.524072	12.5	267115.0	0.552407	Y
6	STD30 280-416844/11	30.0	16.246396	12.5	240331.0	0.541547	Y
7	STD60 280-416844/10	60.0	29.396537	12.5	246407.0	0.489942	Y





## Calibration

/ 1-Chlorohexane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

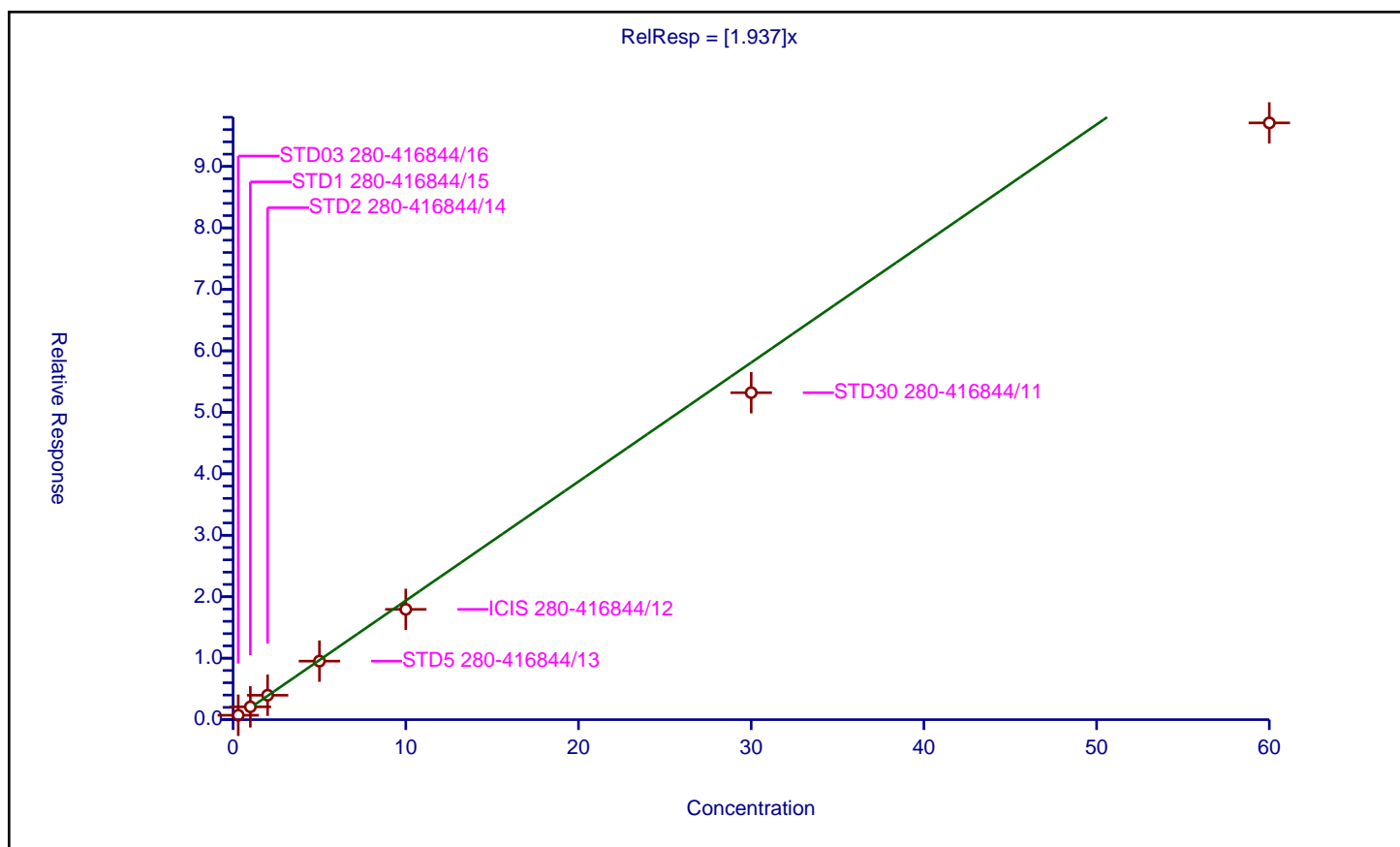
### Curve Coefficients

Intercept: 0  
 Slope: 1.937

### Error Coefficients

Standard Error: 904000  
 Relative Standard Error: 13.1  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.975

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.718455	12.5	257845.0	2.39485	Y
2	STD1 280-416844/15	1.0	2.085165	12.5	255939.0	2.085165	Y
3	STD2 280-416844/14	2.0	3.971995	12.5	272382.0	1.985998	Y
4	STD5 280-416844/13	5.0	9.521525	12.5	264225.0	1.904305	Y
5	ICIS 280-416844/12	10.0	17.942506	12.5	267115.0	1.794251	Y
6	STD30 280-416844/11	30.0	53.192316	12.5	240331.0	1.773077	Y
7	STD60 280-416844/10	60.0	97.085462	12.5	246407.0	1.618091	Y





## Calibration

/ Chlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

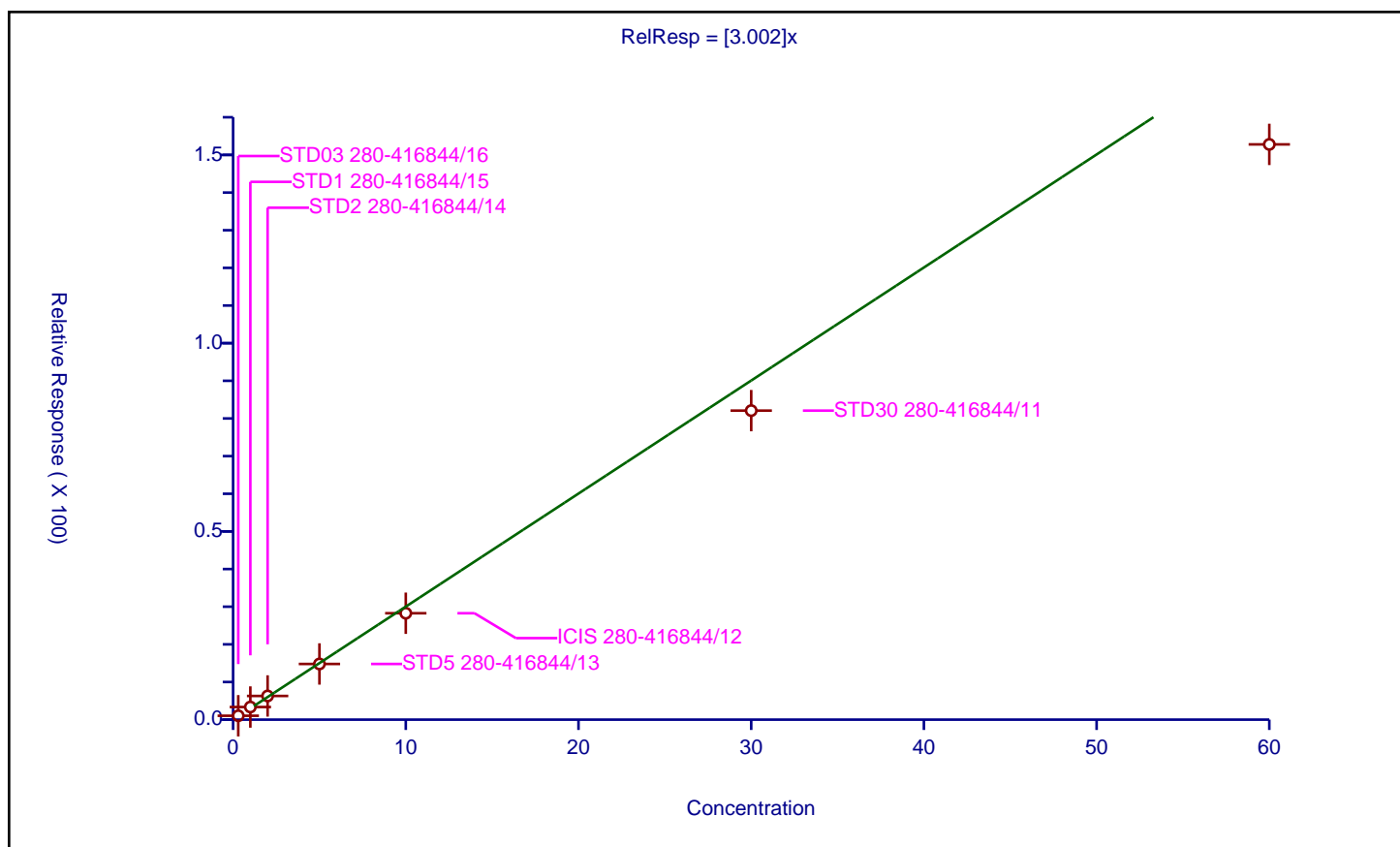
### Curve Coefficients

Intercept: 0  
 Slope: 3.002

### Error Coefficients

Standard Error: 1420000  
 Relative Standard Error: 11.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.036185	12.5	257845.0	3.453948	Y
2	STD1 280-416844/15	1.0	3.350701	12.5	255939.0	3.350701	Y
3	STD2 280-416844/14	2.0	6.291027	12.5	272382.0	3.145513	Y
4	STD5 280-416844/13	5.0	14.787113	12.5	264225.0	2.957423	Y
5	ICIS 280-416844/12	10.0	28.264792	12.5	267115.0	2.826479	Y
6	STD30 280-416844/11	30.0	82.078259	12.5	240331.0	2.735942	Y
7	STD60 280-416844/10	60.0	152.794361	12.5	246407.0	2.546573	Y





## Calibration

/ Ethylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

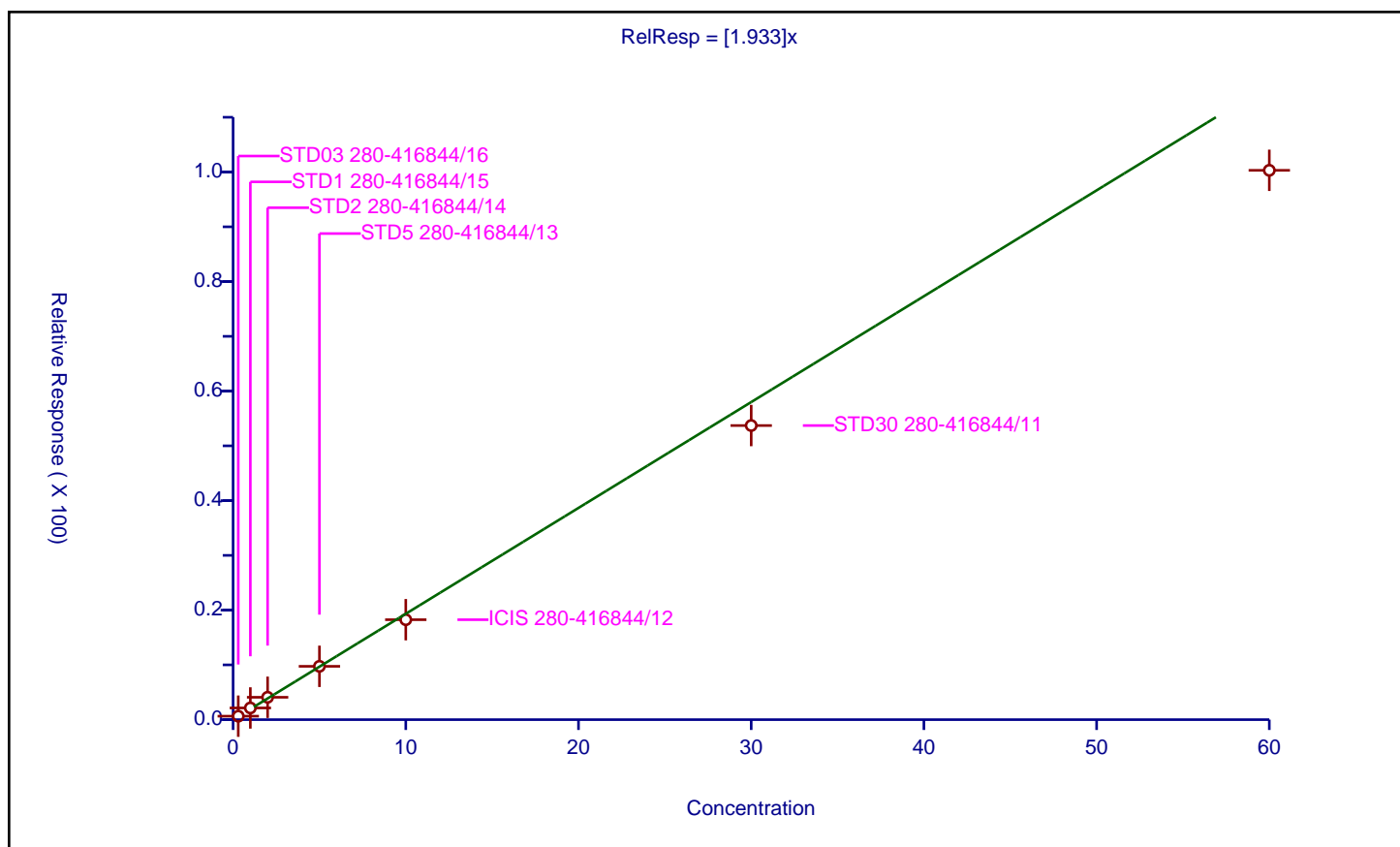
### Curve Coefficients

Intercept: 0  
 Slope: 1.933

### Error Coefficients

Standard Error: 929000  
 Relative Standard Error: 9.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.635702	12.5	257845.0	2.119006	Y
2	STD1 280-416844/15	1.0	2.136202	12.5	255939.0	2.136202	Y
3	STD2 280-416844/14	2.0	4.082318	12.5	272382.0	2.041159	Y
4	STD5 280-416844/13	5.0	9.739474	12.5	264225.0	1.947895	Y
5	ICIS 280-416844/12	10.0	18.250005	12.5	267115.0	1.825	Y
6	STD30 280-416844/11	30.0	53.704838	12.5	240331.0	1.790161	Y
7	STD60 280-416844/10	60.0	100.311832	12.5	246407.0	1.671864	Y





## Calibration

/ 1,1,1,2-Tetrachloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

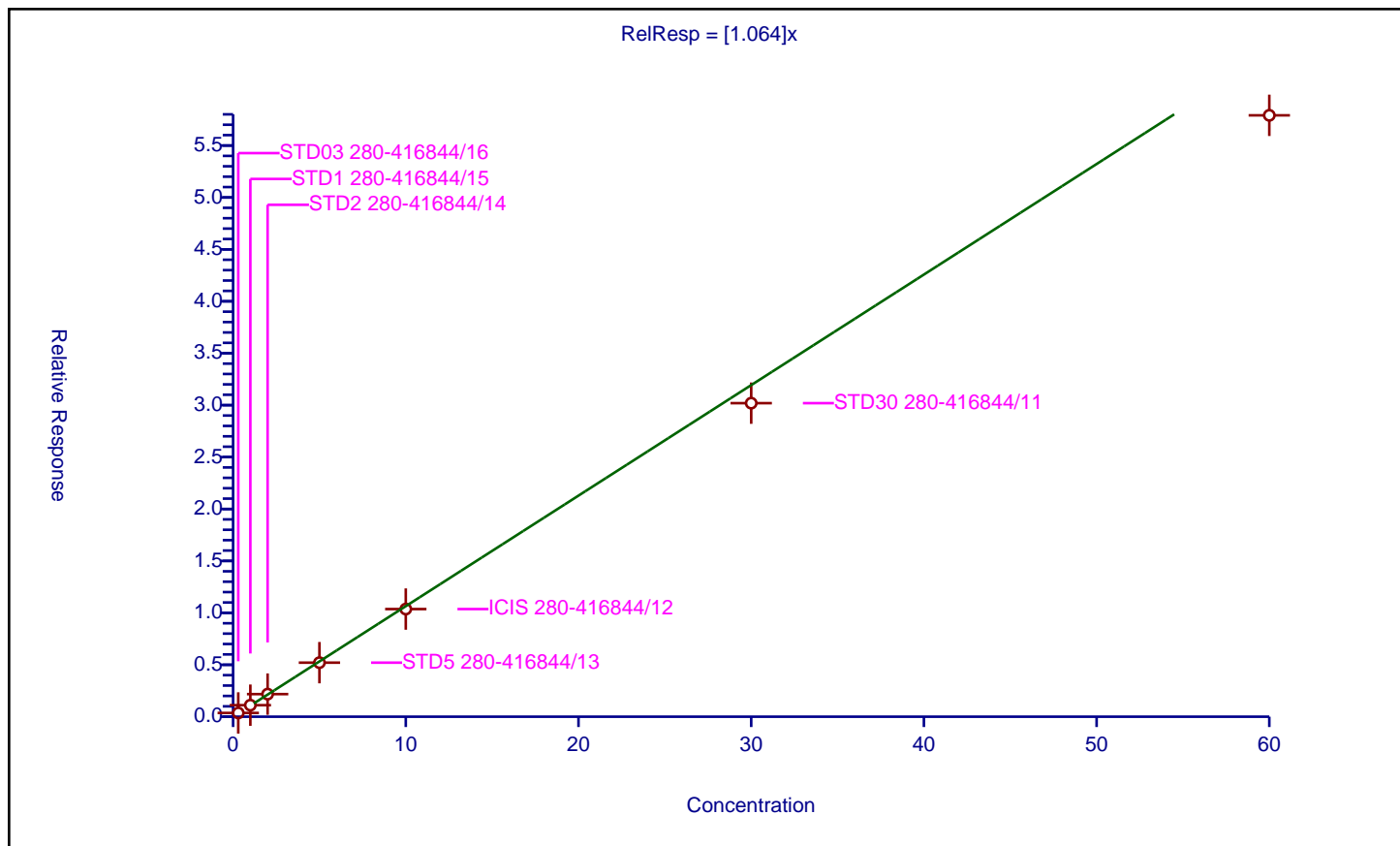
### Curve Coefficients

Intercept: 0  
 Slope: 1.064

### Error Coefficients

Standard Error: 533000  
 Relative Standard Error: 7.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.360876	12.5	257845.0	1.202919	Y
2	STD1 280-416844/15	1.0	1.111251	12.5	255939.0	1.111251	Y
3	STD2 280-416844/14	2.0	2.174933	12.5	272382.0	1.087466	Y
4	STD5 280-416844/13	5.0	5.205081	12.5	264225.0	1.041016	Y
5	ICIS 280-416844/12	10.0	10.364263	12.5	267115.0	1.036426	Y
6	STD30 280-416844/11	30.0	30.190966	12.5	240331.0	1.006366	Y
7	STD60 280-416844/10	60.0	57.906939	12.5	246407.0	0.965116	Y





## Calibration

/ m-Xylene & p-Xylene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

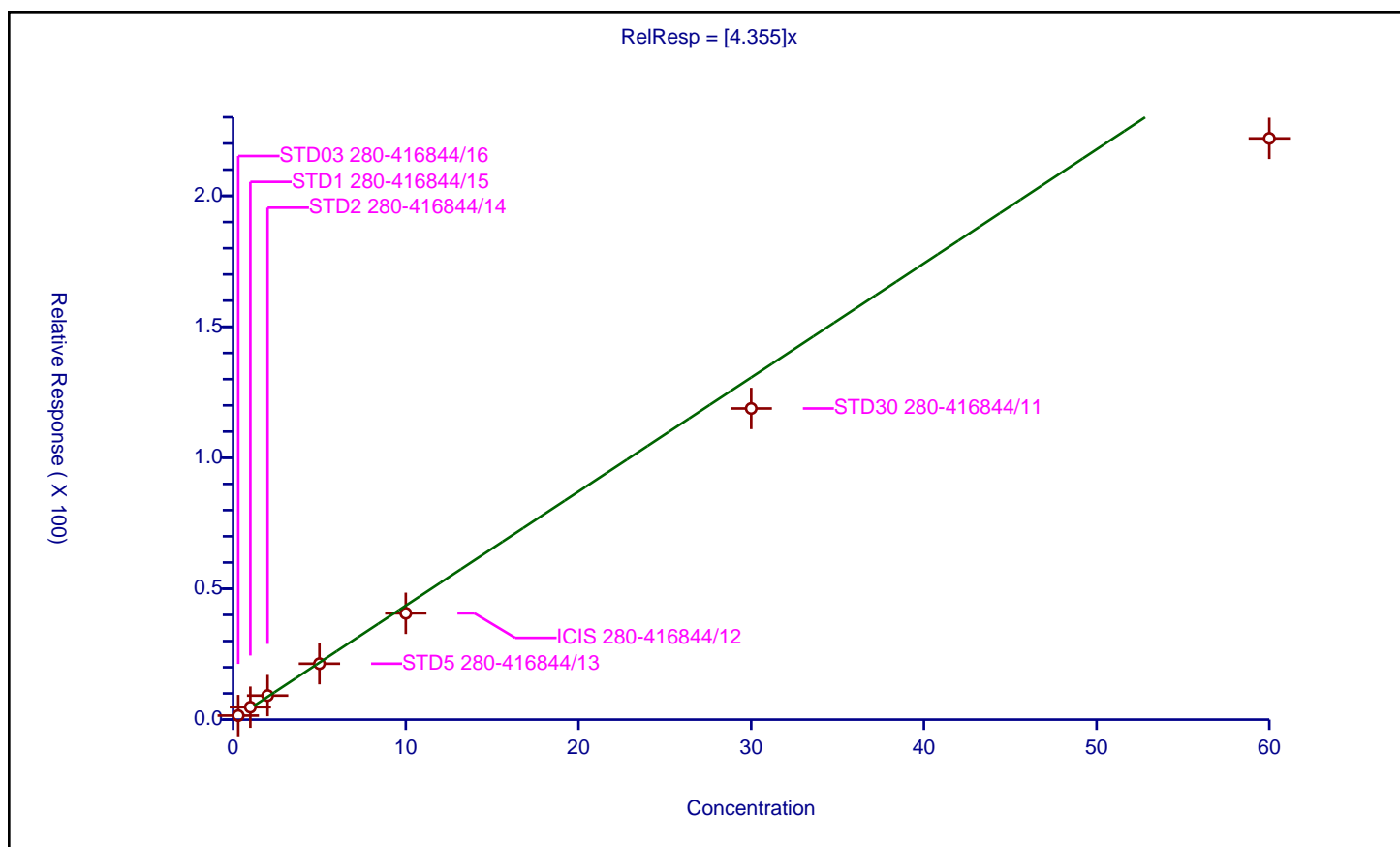
### Curve Coefficients

Intercept: 0  
 Slope: 4.355

### Error Coefficients

Standard Error: 2060000  
 Relative Standard Error: 11.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.981

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.54526	12.5	257845.0	5.150866	Y
2	STD1 280-416844/15	1.0	4.749081	12.5	255939.0	4.749081	Y
3	STD2 280-416844/14	2.0	9.183334	12.5	272382.0	4.591667	Y
4	STD5 280-416844/13	5.0	21.369761	12.5	264225.0	4.273952	Y
5	ICIS 280-416844/12	10.0	40.598665	12.5	267115.0	4.059867	Y
6	STD30 280-416844/11	30.0	118.816913	12.5	240331.0	3.960564	Y
7	STD60 280-416844/10	60.0	221.945095	12.5	246407.0	3.699085	Y





# Calibration

/ o-Xylene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

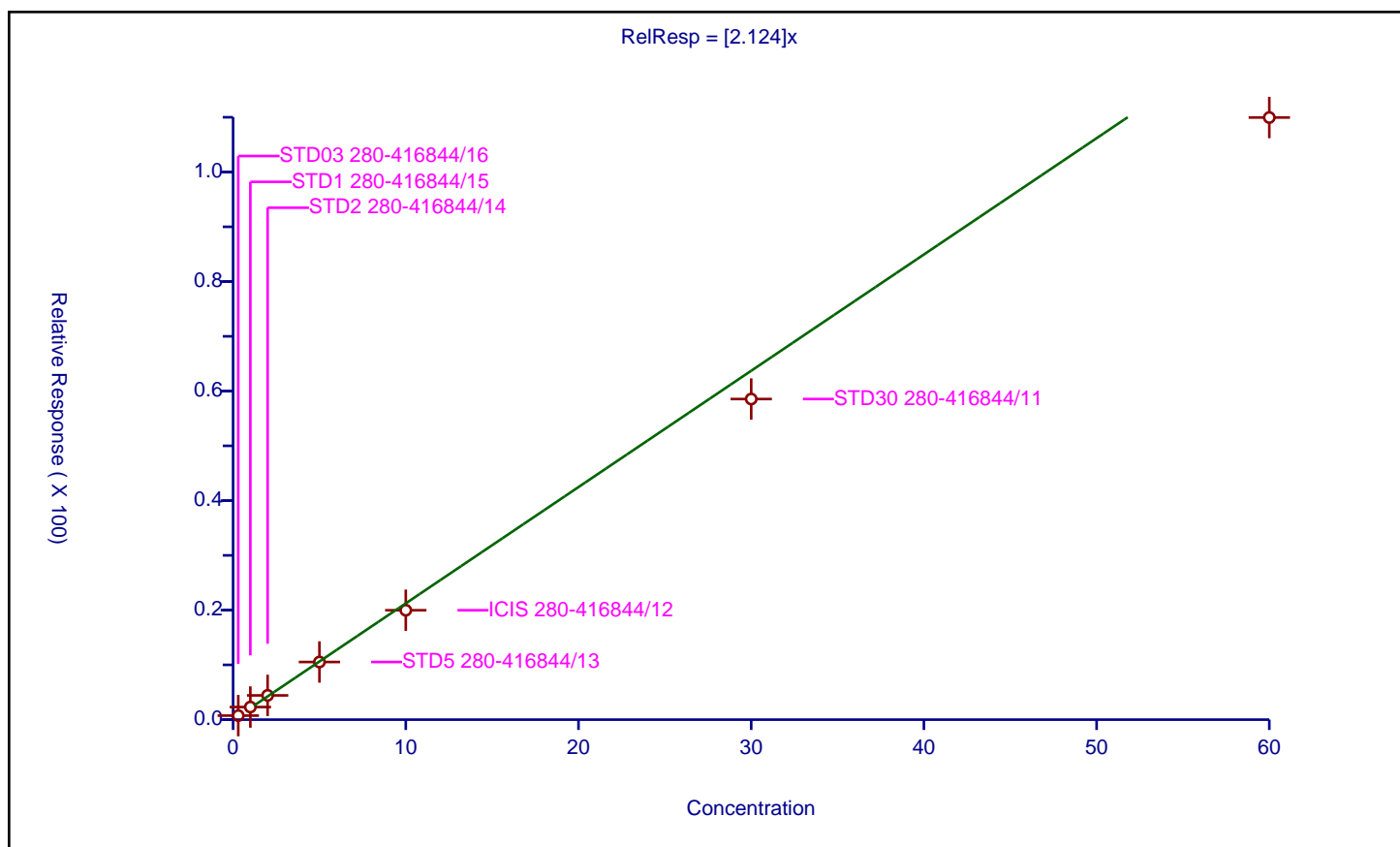
## Curve Coefficients

Intercept: 0  
 Slope: 2.124

## Error Coefficients

Standard Error: 1020000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.738719	12.5	257845.0	2.462397	Y
2	STD1 280-416844/15	1.0	2.300255	12.5	255939.0	2.300255	Y
3	STD2 280-416844/14	2.0	4.431001	12.5	272382.0	2.215501	Y
4	STD5 280-416844/13	5.0	10.524316	12.5	264225.0	2.104863	Y
5	ICIS 280-416844/12	10.0	19.976883	12.5	267115.0	1.997688	Y
6	STD30 280-416844/11	30.0	58.547534	12.5	240331.0	1.951584	Y
7	STD60 280-416844/10	60.0	109.955328	12.5	246407.0	1.832589	Y





# Calibration

/ Styrene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

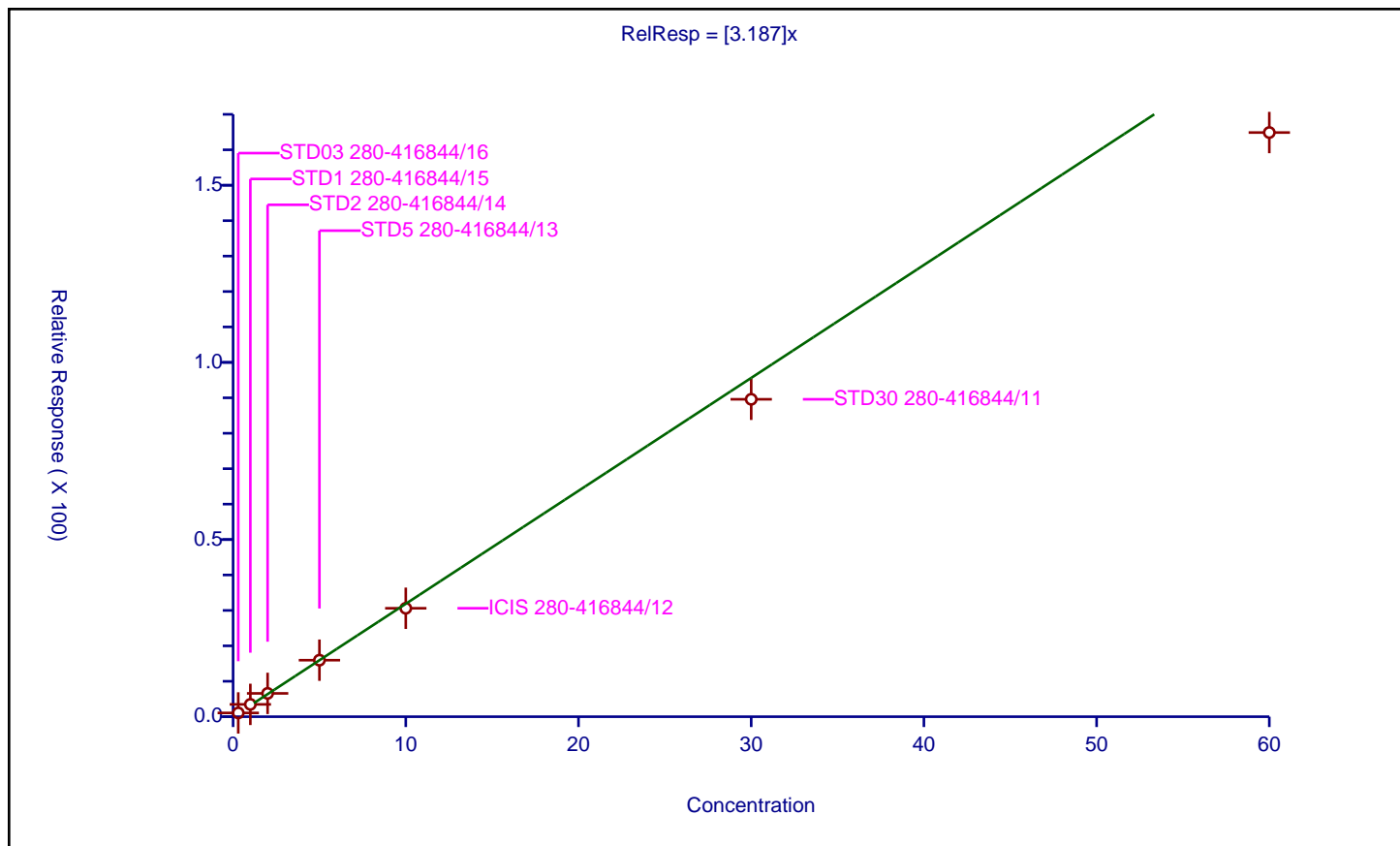
## Curve Coefficients

Intercept: 0  
 Slope: 3.187

## Error Coefficients

Standard Error: 1530000  
 Relative Standard Error: 8.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.064981	12.5	257845.0	3.549936	Y
2	STD1 280-416844/15	1.0	3.483398	12.5	255939.0	3.483398	Y
3	STD2 280-416844/14	2.0	6.582713	12.5	272382.0	3.291356	Y
4	STD5 280-416844/13	5.0	15.957707	12.5	264225.0	3.191541	Y
5	ICIS 280-416844/12	10.0	30.607978	12.5	267115.0	3.060798	Y
6	STD30 280-416844/11	30.0	89.584625	12.5	240331.0	2.986154	Y
7	STD60 280-416844/10	60.0	164.868946	12.5	246407.0	2.747816	Y





# Calibration

/ Bromoform

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

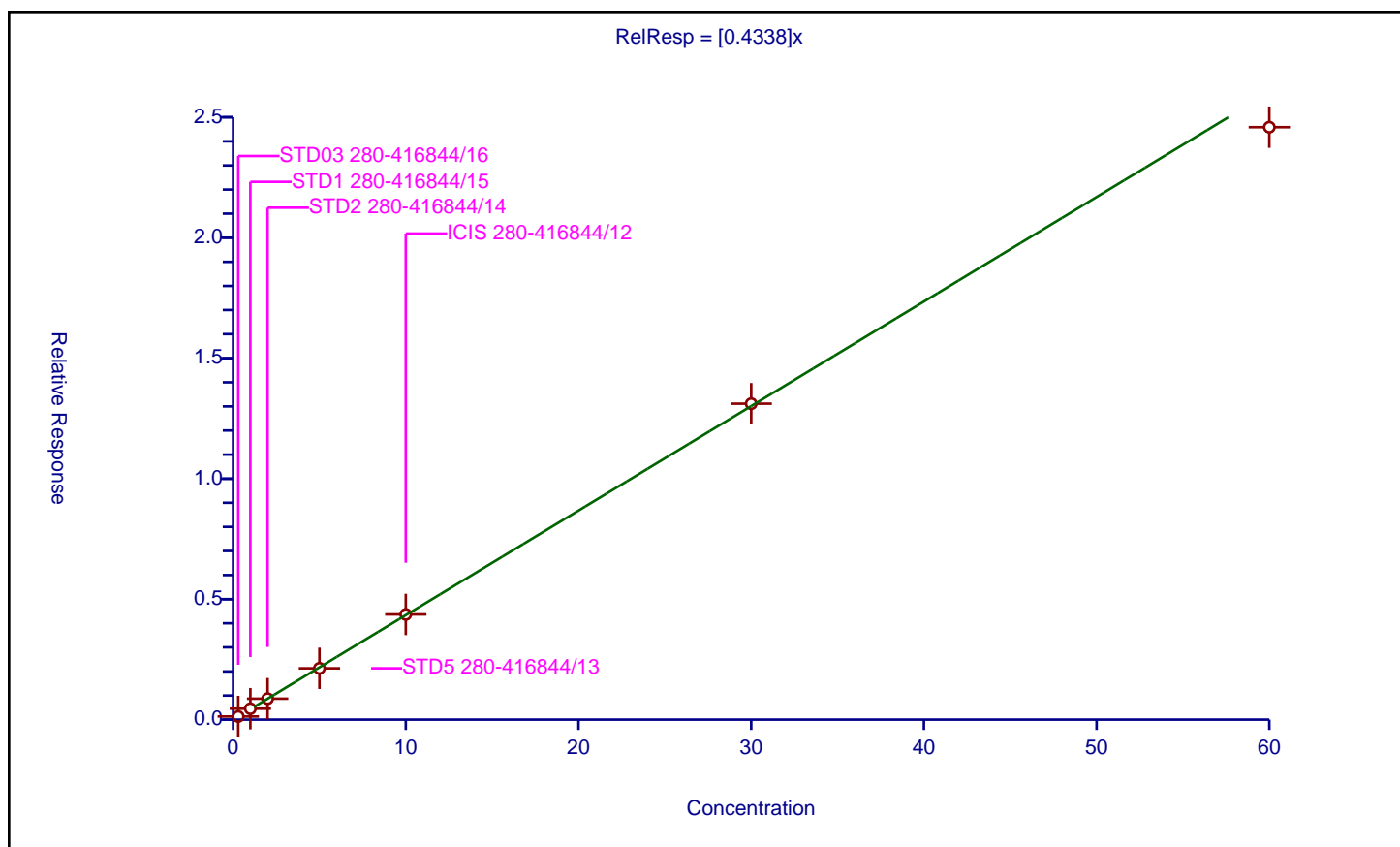
## Curve Coefficients

Intercept: 0  
 Slope: 0.4338

## Error Coefficients

Standard Error: 227000  
 Relative Standard Error: 3.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.999

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.131329	12.5	257845.0	0.437763	Y
2	STD1 280-416844/15	1.0	0.454307	12.5	255939.0	0.454307	Y
3	STD2 280-416844/14	2.0	0.870239	12.5	272382.0	0.43512	Y
4	STD5 280-416844/13	5.0	2.13005	12.5	264225.0	0.42601	Y
5	ICIS 280-416844/12	10.0	4.365863	12.5	267115.0	0.436586	Y
6	STD30 280-416844/11	30.0	13.113009	12.5	240331.0	0.4371	Y
7	STD60 280-416844/10	60.0	24.587268	12.5	246407.0	0.409788	Y





# Calibration

/ Isopropylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

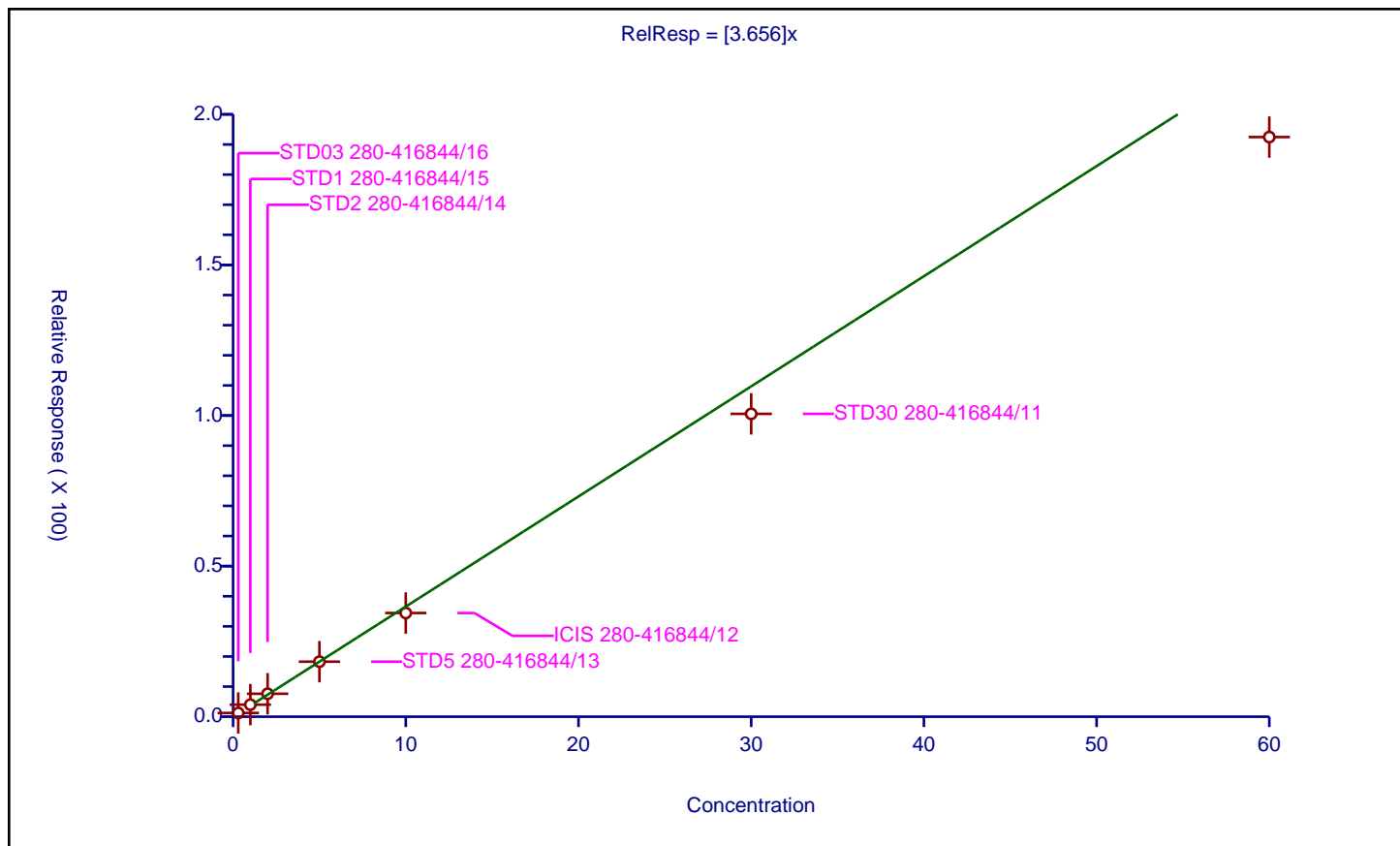
## Curve Coefficients

Intercept: 0  
 Slope: 3.656

## Error Coefficients

Standard Error: 2670000  
 Relative Standard Error: 9.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.236327	12.5	399065.0	4.121091	Y
2	STD1 280-416844/15	1.0	4.005118	12.5	384895.0	4.005118	Y
3	STD2 280-416844/14	2.0	7.625339	12.5	416370.0	3.81267	Y
4	STD5 280-416844/13	5.0	18.268558	12.5	401697.0	3.653712	Y
5	ICIS 280-416844/12	10.0	34.426272	12.5	406595.0	3.442627	Y
6	STD30 280-416844/11	30.0	100.555867	12.5	367804.0	3.351862	Y
7	STD60 280-416844/10	60.0	192.461583	12.5	369038.0	3.207693	Y





## Calibration

/ Cyclohexanone

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

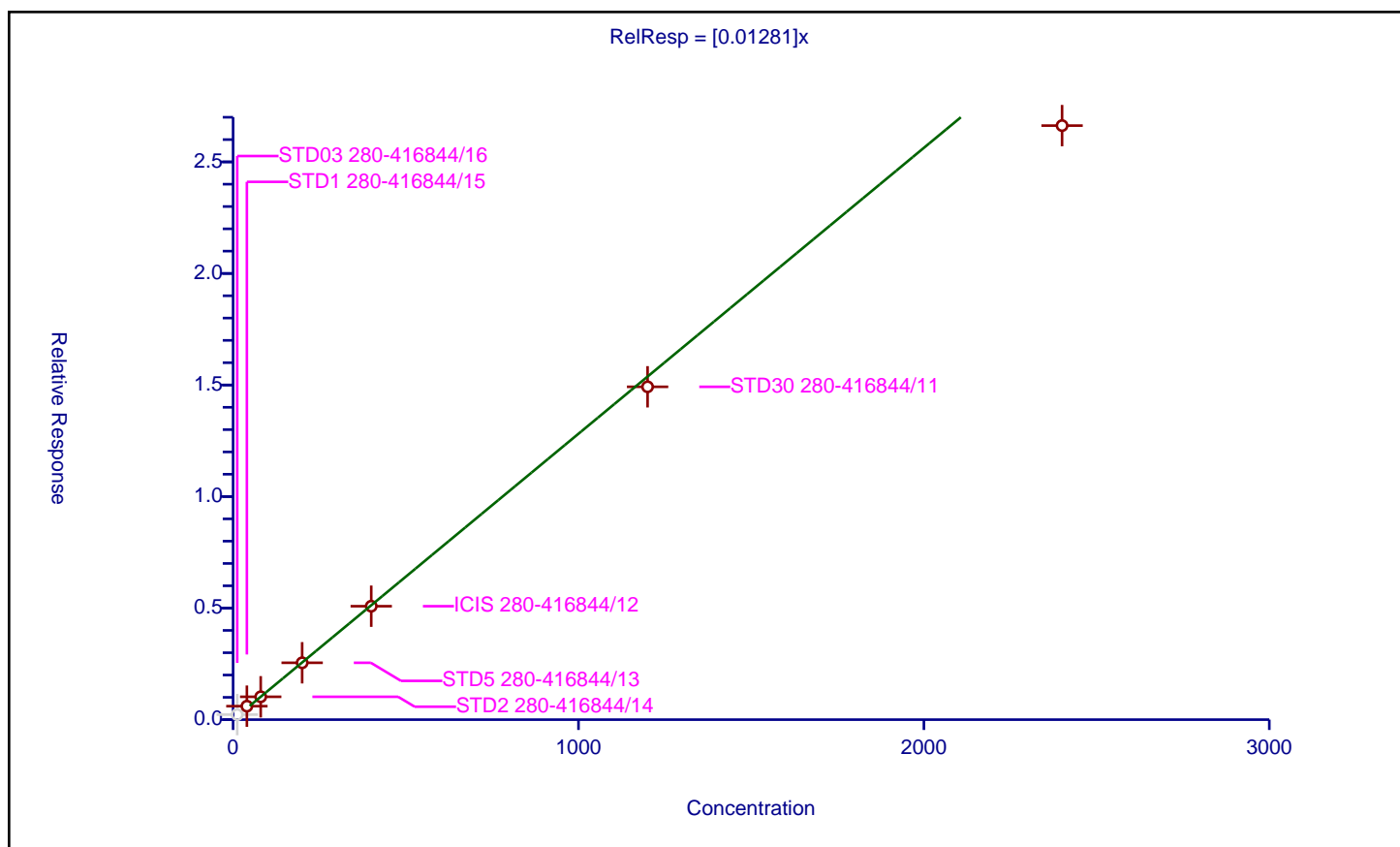
## Curve Coefficients

Intercept: 0  
Slope: 0.01281

## Error Coefficients

Standard Error: 273000  
Relative Standard Error: 10.1  
Correlation Coefficient: 0.998  
Coefficient of Determination (Adjusted): 0.983

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	12.0	0.226977	12.5	257845.0	0.018915	N
2	STD1 280-416844/15	40.0	0.603708	12.5	255939.0	0.015093	Y
3	STD2 280-416844/14	80.0	1.025031	12.5	272382.0	0.012813	Y
4	STD5 280-416844/13	200.0	2.548869	12.5	264225.0	0.012744	Y
5	ICIS 280-416844/12	400.0	5.084842	12.5	267115.0	0.012712	Y
6	STD30 280-416844/11	1200.0	14.919164	12.5	240331.0	0.012433	Y
7	STD60 280-416844/10	2400.0	26.626476	12.5	246407.0	0.011094	Y





# Calibration

/ 4-Bromofluorobenzene (Surr)

Curve Type: Linear  
 Weighting: Conc\_Sq  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

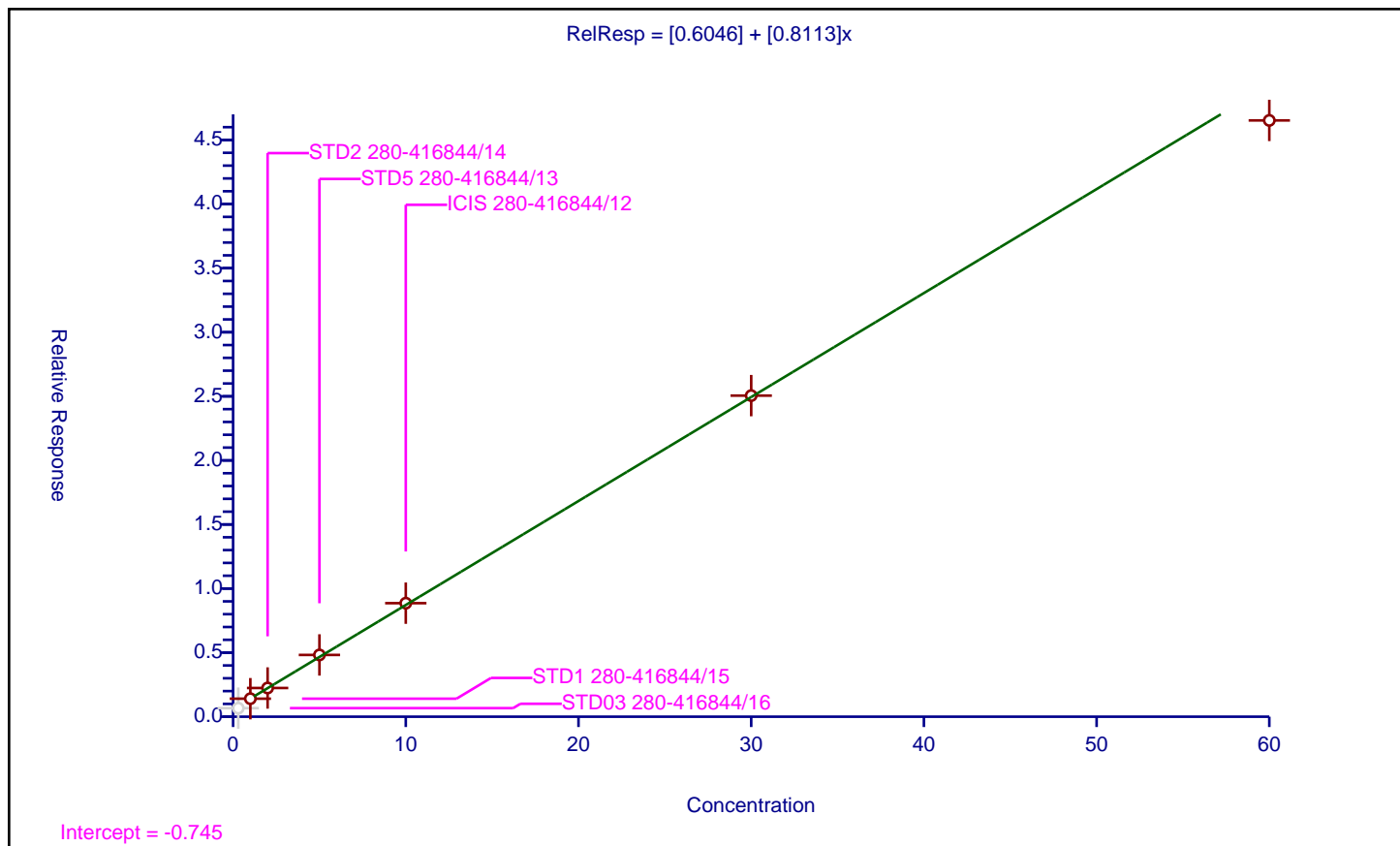
## Curve Coefficients

Intercept: 0.6046  
 Slope: 0.8113

## Error Coefficients

Standard Error: 798000  
 Relative Standard Error: 3.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.998

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.668124	12.5	399065.0	2.227081	N
2	STD1 280-416844/15	1.0	1.405481	12.5	384895.0	1.405481	Y
3	STD2 280-416844/14	2.0	2.240375	12.5	416370.0	1.120188	Y
4	STD5 280-416844/13	5.0	4.820051	12.5	401697.0	0.96401	Y
5	ICIS 280-416844/12	10.0	8.859399	12.5	406595.0	0.88594	Y
6	STD30 280-416844/11	30.0	25.054309	12.5	367804.0	0.835144	Y
7	STD60 280-416844/10	60.0	46.527458	12.5	369038.0	0.775458	Y





## Calibration

/ 1,1,2,2-Tetrachloroethane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

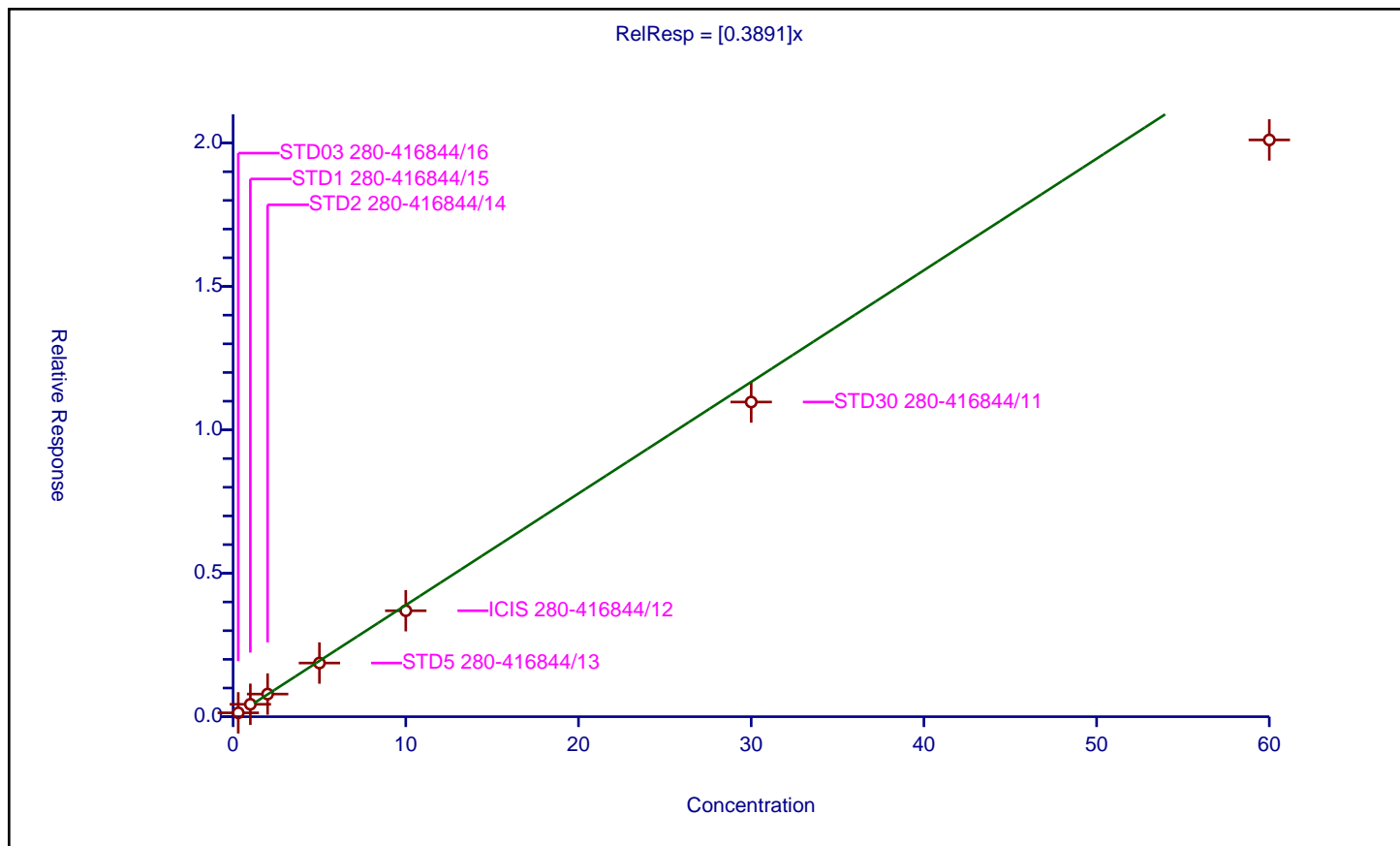
### Curve Coefficients

Intercept: 0  
 Slope: 0.3891

### Error Coefficients

Standard Error: 282000  
 Relative Standard Error: 10.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.135222	12.5	399065.0	0.450741	Y
2	STD1 280-416844/15	1.0	0.43369	12.5	384895.0	0.43369	Y
3	STD2 280-416844/14	2.0	0.789262	12.5	416370.0	0.394631	Y
4	STD5 280-416844/13	5.0	1.871684	12.5	401697.0	0.374337	Y
5	ICIS 280-416844/12	10.0	3.695077	12.5	406595.0	0.369508	Y
6	STD30 280-416844/11	30.0	10.970891	12.5	367804.0	0.365696	Y
7	STD60 280-416844/10	60.0	20.108702	12.5	369038.0	0.335145	Y





## Calibration

/ trans-1,4-Dichloro-2-butene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

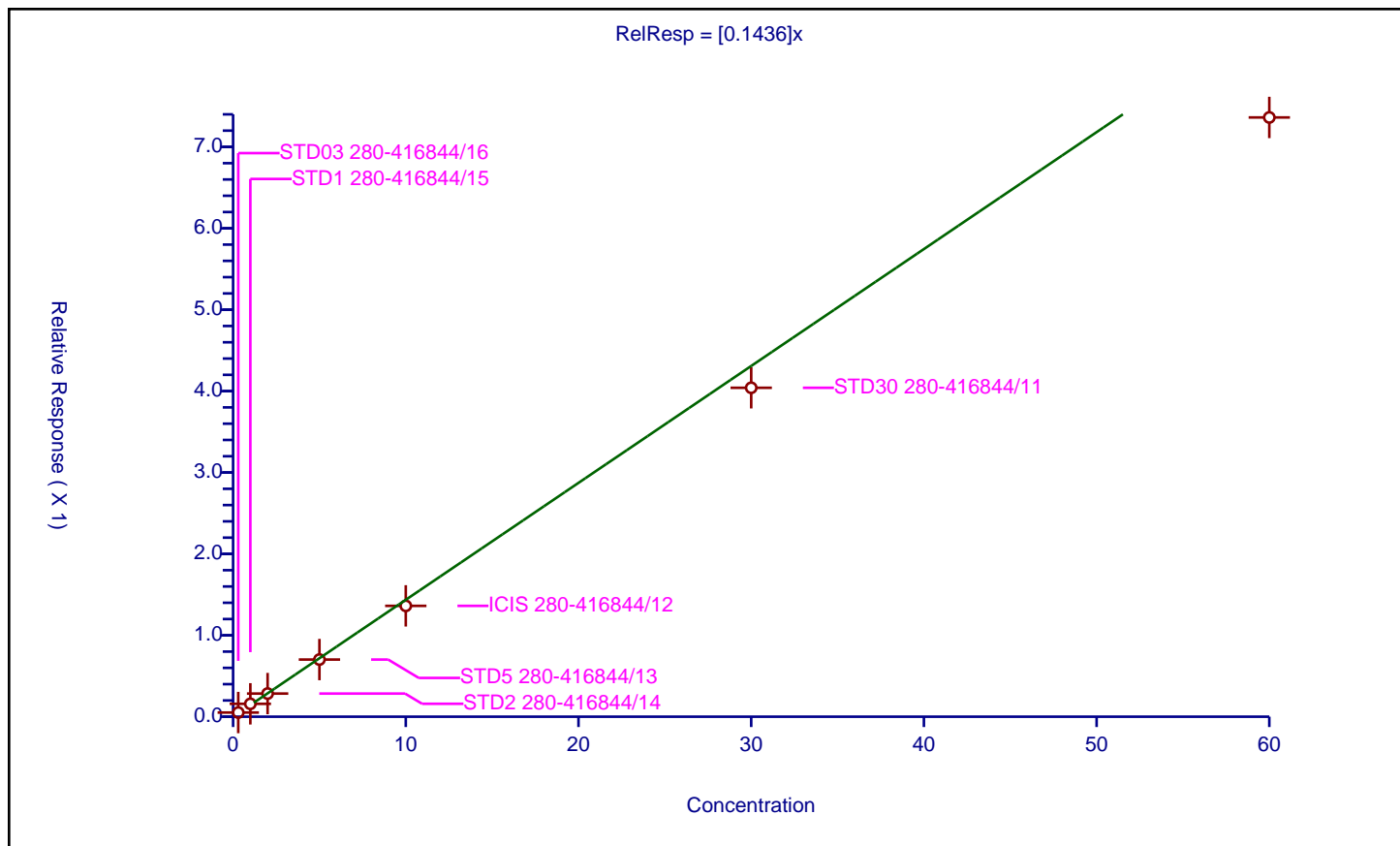
### Curve Coefficients

Intercept: 0  
 Slope: 0.1436

### Error Coefficients

Standard Error: 103000  
 Relative Standard Error: 11.2  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.982

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.051276	12.5	399065.0	0.17092	Y
2	STD1 280-416844/15	1.0	0.158257	12.5	384895.0	0.158257	Y
3	STD2 280-416844/14	2.0	0.284392	12.5	416370.0	0.142196	Y
4	STD5 280-416844/13	5.0	0.702239	12.5	401697.0	0.140448	Y
5	ICIS 280-416844/12	10.0	1.361705	12.5	406595.0	0.136171	Y
6	STD30 280-416844/11	30.0	4.040943	12.5	367804.0	0.134698	Y
7	STD60 280-416844/10	60.0	7.362182	12.5	369038.0	0.122703	Y





## Calibration

/ N-Propylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

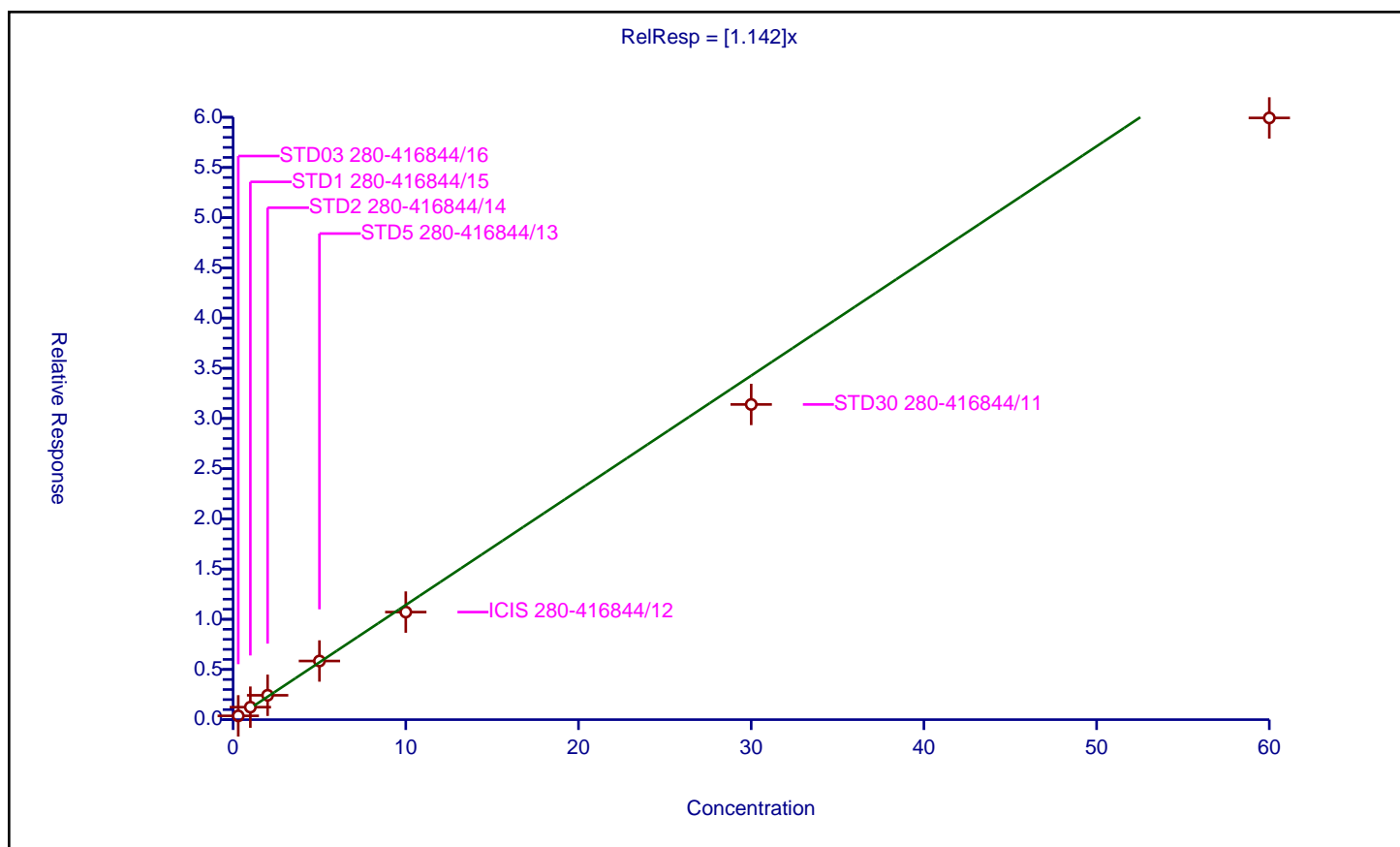
### Curve Coefficients

Intercept: 0  
 Slope: 1.142

### Error Coefficients

Standard Error: 832000  
 Relative Standard Error: 9.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.989

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.375879	12.5	399065.0	1.252929	Y
2	STD1 280-416844/15	1.0	1.244365	12.5	384895.0	1.244365	Y
3	STD2 280-416844/14	2.0	2.426237	12.5	416370.0	1.213119	Y
4	STD5 280-416844/13	5.0	5.840721	12.5	401697.0	1.168144	Y
5	ICIS 280-416844/12	10.0	10.714716	12.5	406595.0	1.071472	Y
6	STD30 280-416844/11	30.0	31.394234	12.5	367804.0	1.046474	Y
7	STD60 280-416844/10	60.0	59.934343	12.5	369038.0	0.998906	Y





## Calibration

/ 1,2,3-Trichloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

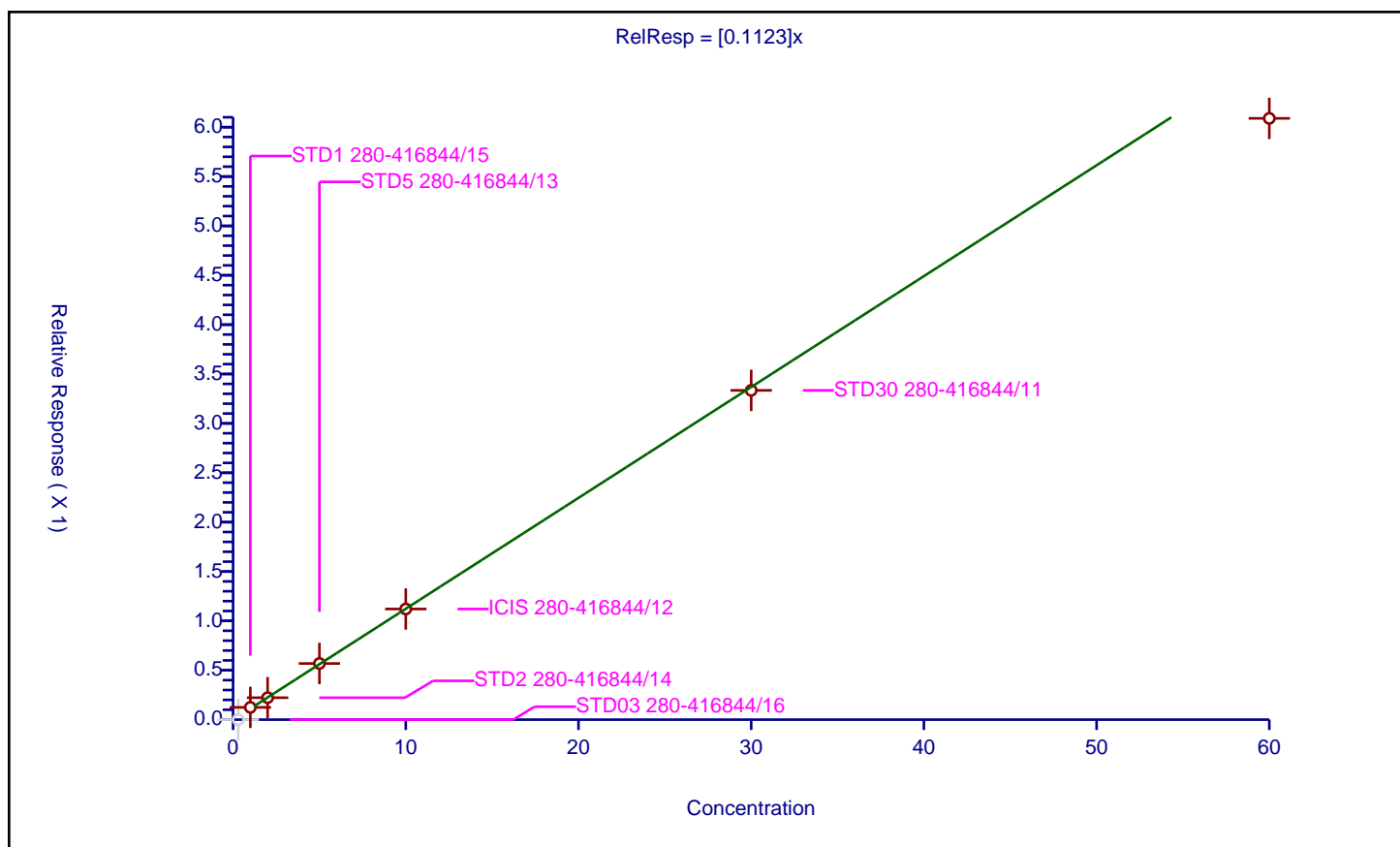
### Curve Coefficients

Intercept: 0  
 Slope: 0.1123

### Error Coefficients

Standard Error: 93500  
 Relative Standard Error: 6.4  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.993

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.0	12.5	399065.0	0.0	N
2	STD1 280-416844/15	1.0	0.12406	12.5	384895.0	0.12406	Y
3	STD2 280-416844/14	2.0	0.222368	12.5	416370.0	0.111184	Y
4	STD5 280-416844/13	5.0	0.56865	12.5	401697.0	0.11373	Y
5	ICIS 280-416844/12	10.0	1.120495	12.5	406595.0	0.112049	Y
6	STD30 280-416844/11	30.0	3.334589	12.5	367804.0	0.111153	Y
7	STD60 280-416844/10	60.0	6.08877	12.5	369038.0	0.101479	Y





# Calibration

/ Bromobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

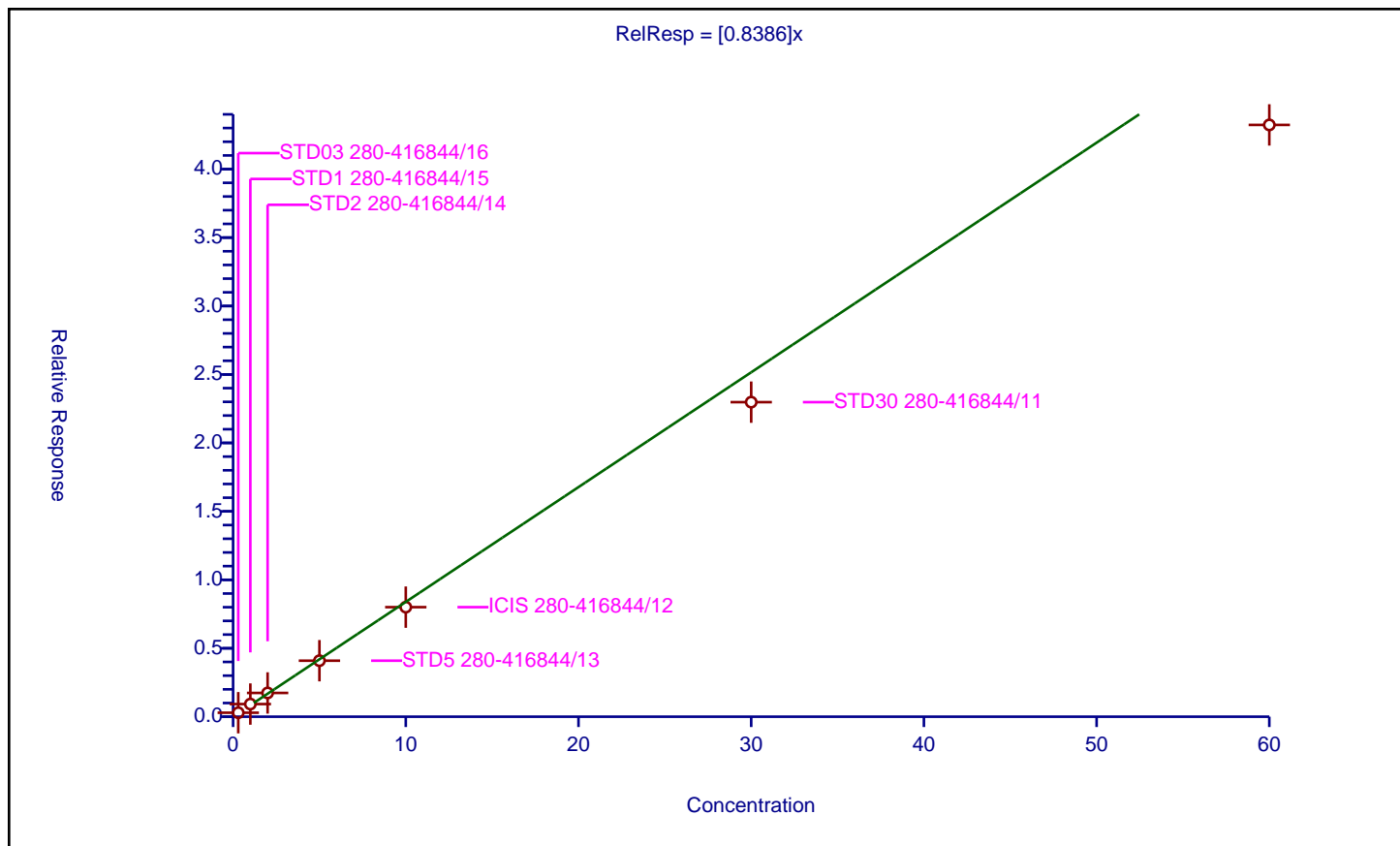
## Curve Coefficients

Intercept: 0  
 Slope: 0.8386

## Error Coefficients

Standard Error: 602000  
 Relative Standard Error: 10.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.292152	12.5	399065.0	0.973839	Y
2	STD1 280-416844/15	1.0	0.923596	12.5	384895.0	0.923596	Y
3	STD2 280-416844/14	2.0	1.735446	12.5	416370.0	0.867723	Y
4	STD5 280-416844/13	5.0	4.092108	12.5	401697.0	0.818422	Y
5	ICIS 280-416844/12	10.0	8.003634	12.5	406595.0	0.800363	Y
6	STD30 280-416844/11	30.0	22.977965	12.5	367804.0	0.765932	Y
7	STD60 280-416844/10	60.0	43.228746	12.5	369038.0	0.720479	Y





# Calibration

/ 1,3,5-Trimethylbenzene

Curve Type: Average  
Weighting: Conc\_Sq  
Origin: Force  
Dependency: Response  
Calib Mode: ISTD  
Response Base:  
RF Rounding: 0

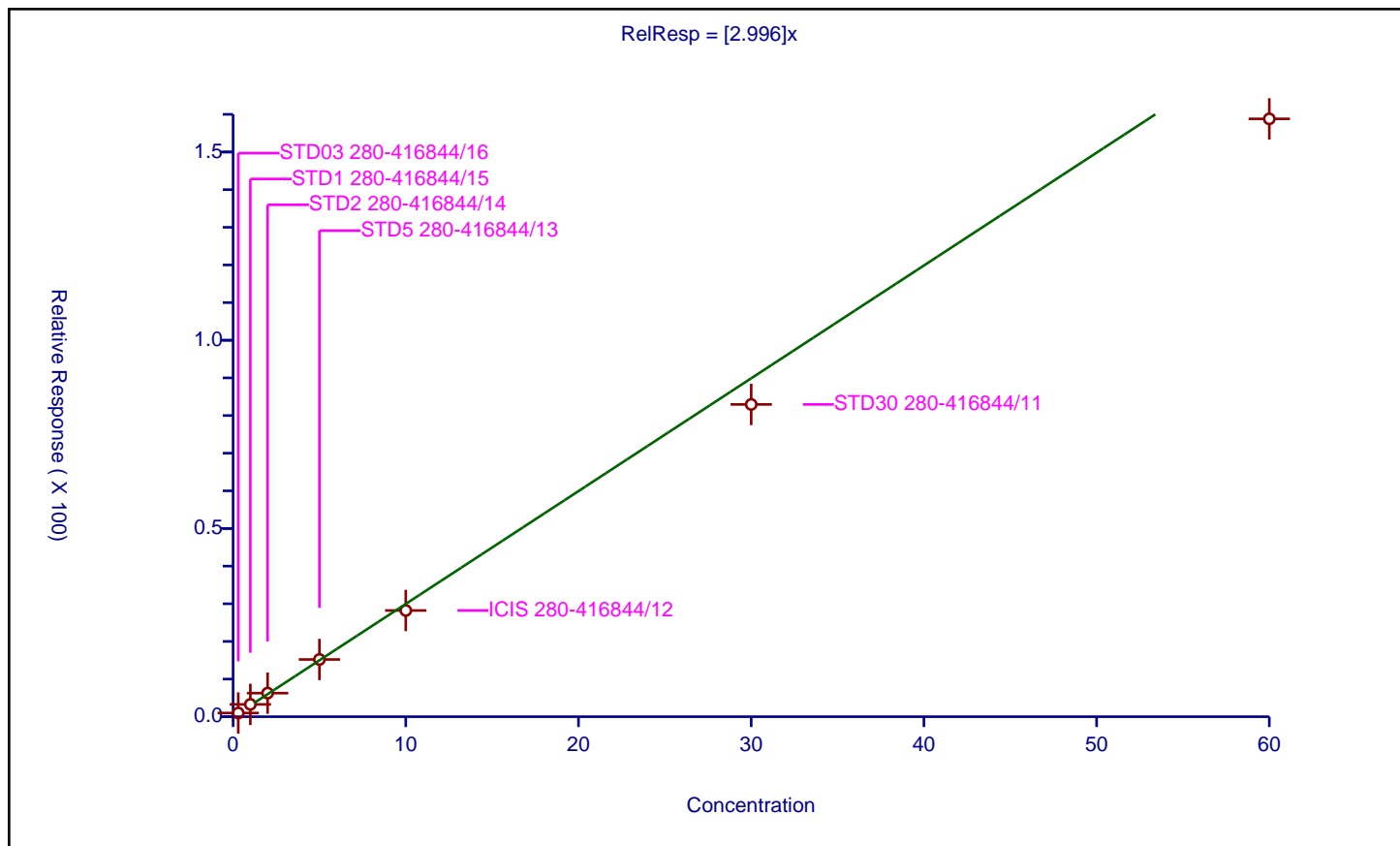
## Curve Coefficients

Intercept: 0  
Slope: 2.996

## Error Coefficients

Standard Error: 2200000  
Relative Standard Error: 8.5  
Correlation Coefficient: 0.999  
Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.987934	12.5	399065.0	3.293114	Y
2	STD1 280-416844/15	1.0	3.27401	12.5	384895.0	3.27401	Y
3	STD2 280-416844/14	2.0	6.266602	12.5	416370.0	3.133301	Y
4	STD5 280-416844/13	5.0	15.200947	12.5	401697.0	3.040189	Y
5	ICIS 280-416844/12	10.0	28.218467	12.5	406595.0	2.821847	Y
6	STD30 280-416844/11	30.0	82.953557	12.5	367804.0	2.765119	Y
7	STD60 280-416844/10	60.0	158.805868	12.5	369038.0	2.646764	Y





# Calibration

/ 2-Chlorotoluene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

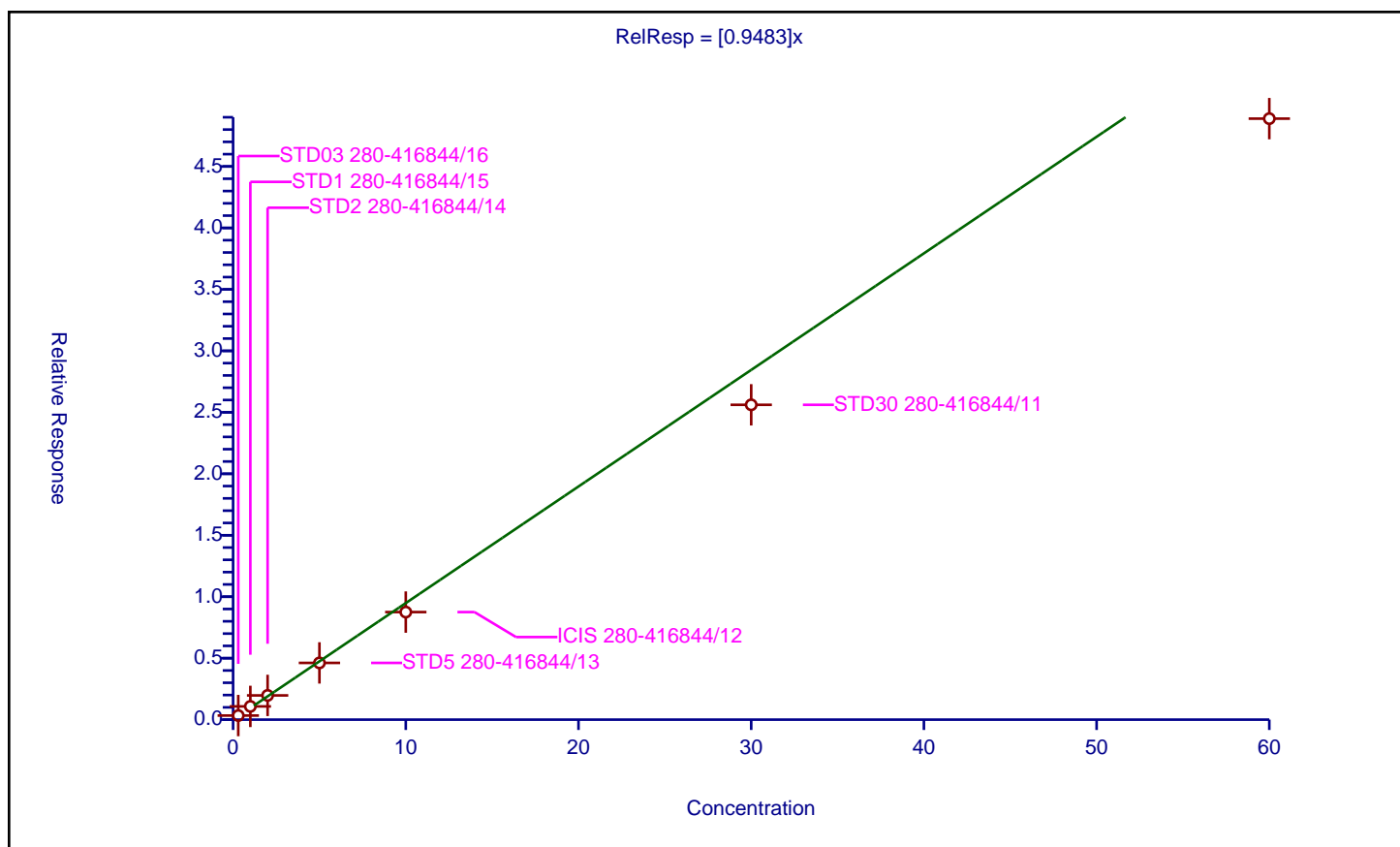
## Curve Coefficients

Intercept: 0  
 Slope: 0.9483

## Error Coefficients

Standard Error: 678000  
 Relative Standard Error: 11.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.980

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.332214	12.5	399065.0	1.10738	Y
2	STD1 280-416844/15	1.0	1.078379	12.5	384895.0	1.078379	Y
3	STD2 280-416844/14	2.0	1.970723	12.5	416370.0	0.985362	Y
4	STD5 280-416844/13	5.0	4.616135	12.5	401697.0	0.923227	Y
5	ICIS 280-416844/12	10.0	8.749616	12.5	406595.0	0.874962	Y
6	STD30 280-416844/11	30.0	25.610787	12.5	367804.0	0.853693	Y
7	STD60 280-416844/10	60.0	48.890223	12.5	369038.0	0.814837	Y





# Calibration

/ 4-Chlorotoluene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

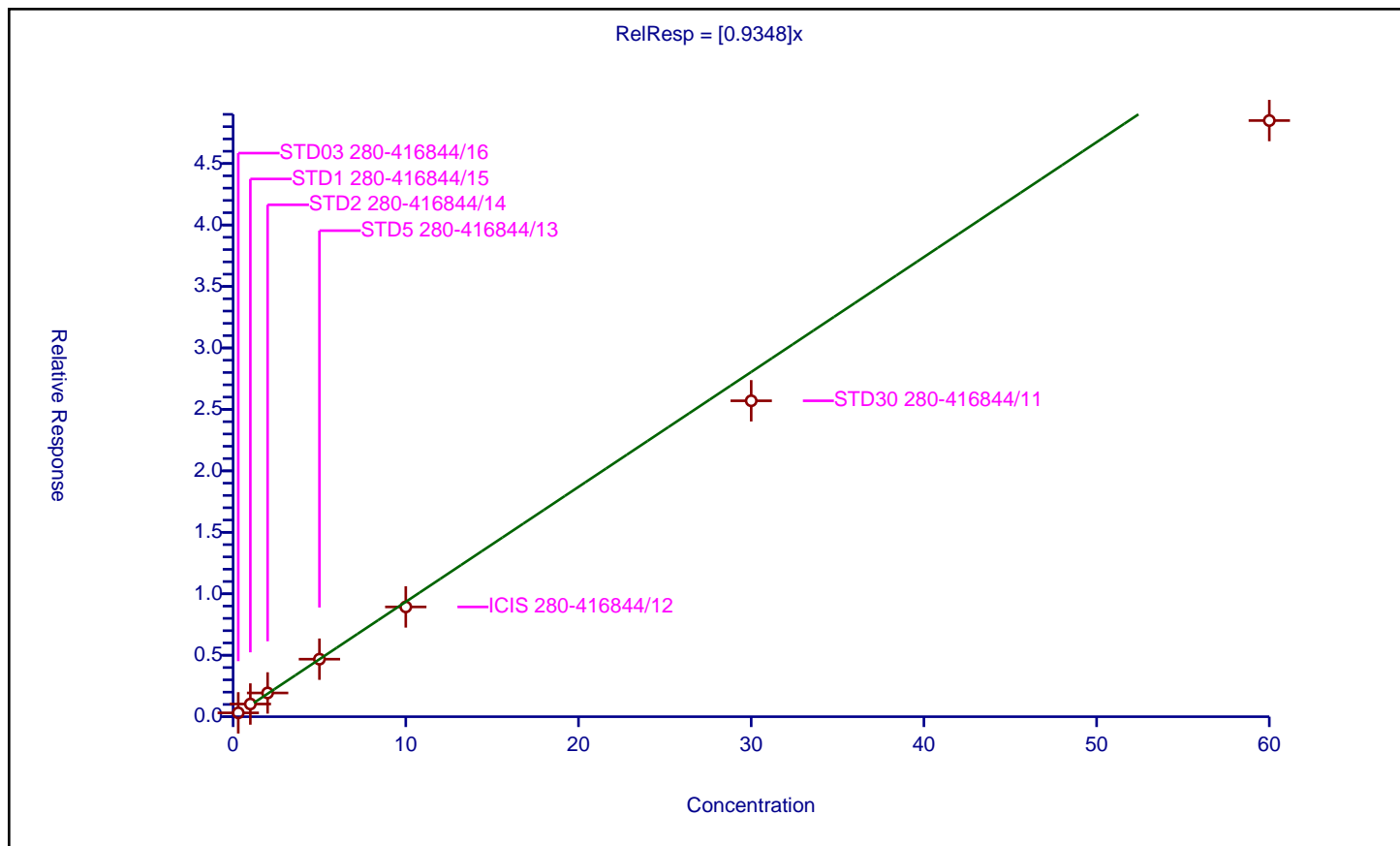
## Curve Coefficients

Intercept: 0  
 Slope: 0.9348

## Error Coefficients

Standard Error: 675000  
 Relative Standard Error: 9.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.314986	12.5	399065.0	1.049954	Y
2	STD1 280-416844/15	1.0	1.03223	12.5	384895.0	1.03223	Y
3	STD2 280-416844/14	2.0	1.933977	12.5	416370.0	0.966988	Y
4	STD5 280-416844/13	5.0	4.680642	12.5	401697.0	0.936128	Y
5	ICIS 280-416844/12	10.0	8.930539	12.5	406595.0	0.893054	Y
6	STD30 280-416844/11	30.0	25.699931	12.5	367804.0	0.856664	Y
7	STD60 280-416844/10	60.0	48.49653	12.5	369038.0	0.808276	Y





# Calibration

/ tert-Butylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

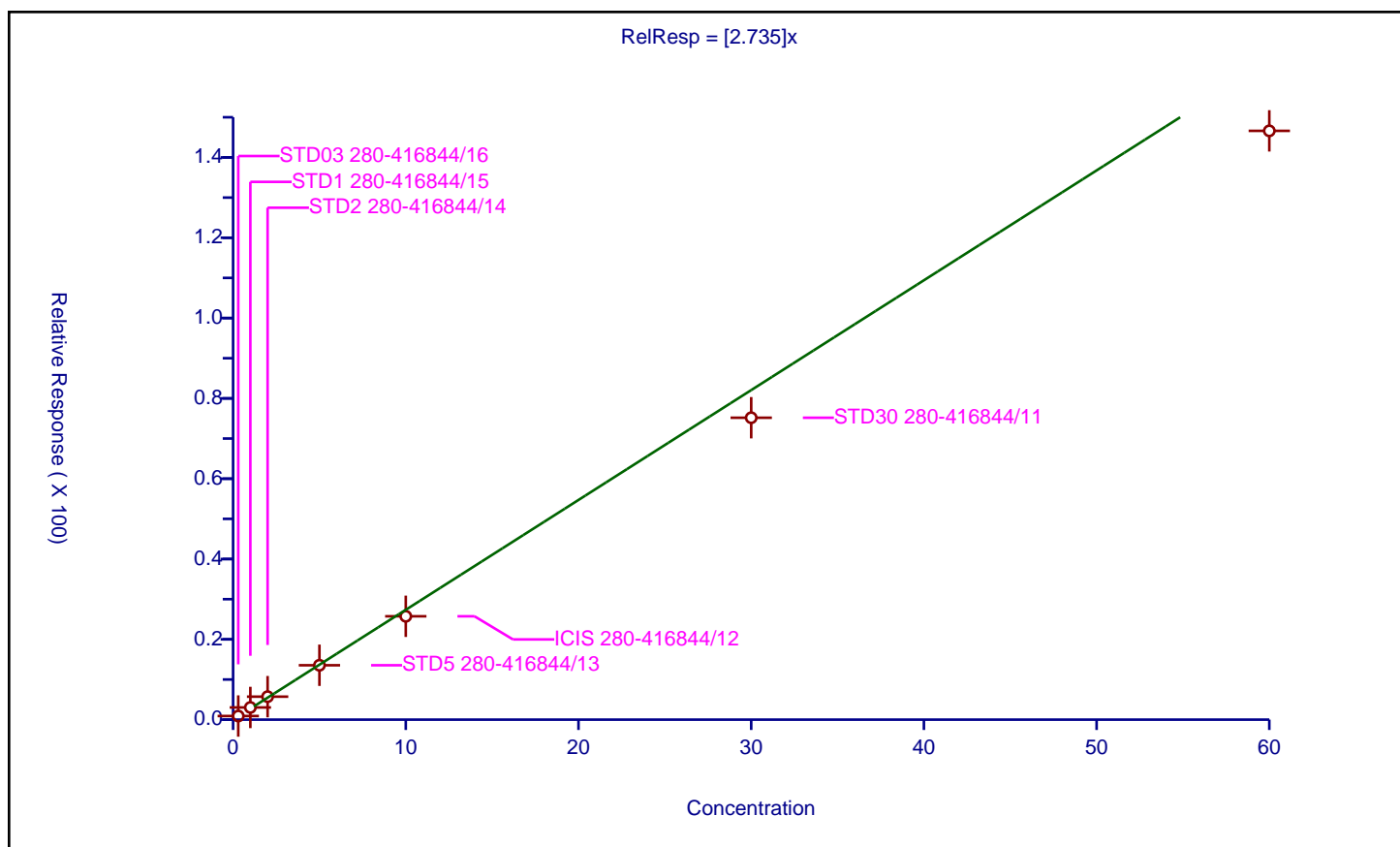
## Curve Coefficients

Intercept: 0  
 Slope: 2.735

## Error Coefficients

Standard Error: 2020000  
 Relative Standard Error: 8.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.905993	12.5	399065.0	3.019976	Y
2	STD1 280-416844/15	1.0	3.033197	12.5	384895.0	3.033197	Y
3	STD2 280-416844/14	2.0	5.722765	12.5	416370.0	2.861382	Y
4	STD5 280-416844/13	5.0	13.544911	12.5	401697.0	2.708982	Y
5	ICIS 280-416844/12	10.0	25.737405	12.5	406595.0	2.57374	Y
6	STD30 280-416844/11	30.0	75.178798	12.5	367804.0	2.50596	Y
7	STD60 280-416844/10	60.0	146.621114	12.5	369038.0	2.443685	Y





# Calibration

/ 1,2,4-Trimethylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

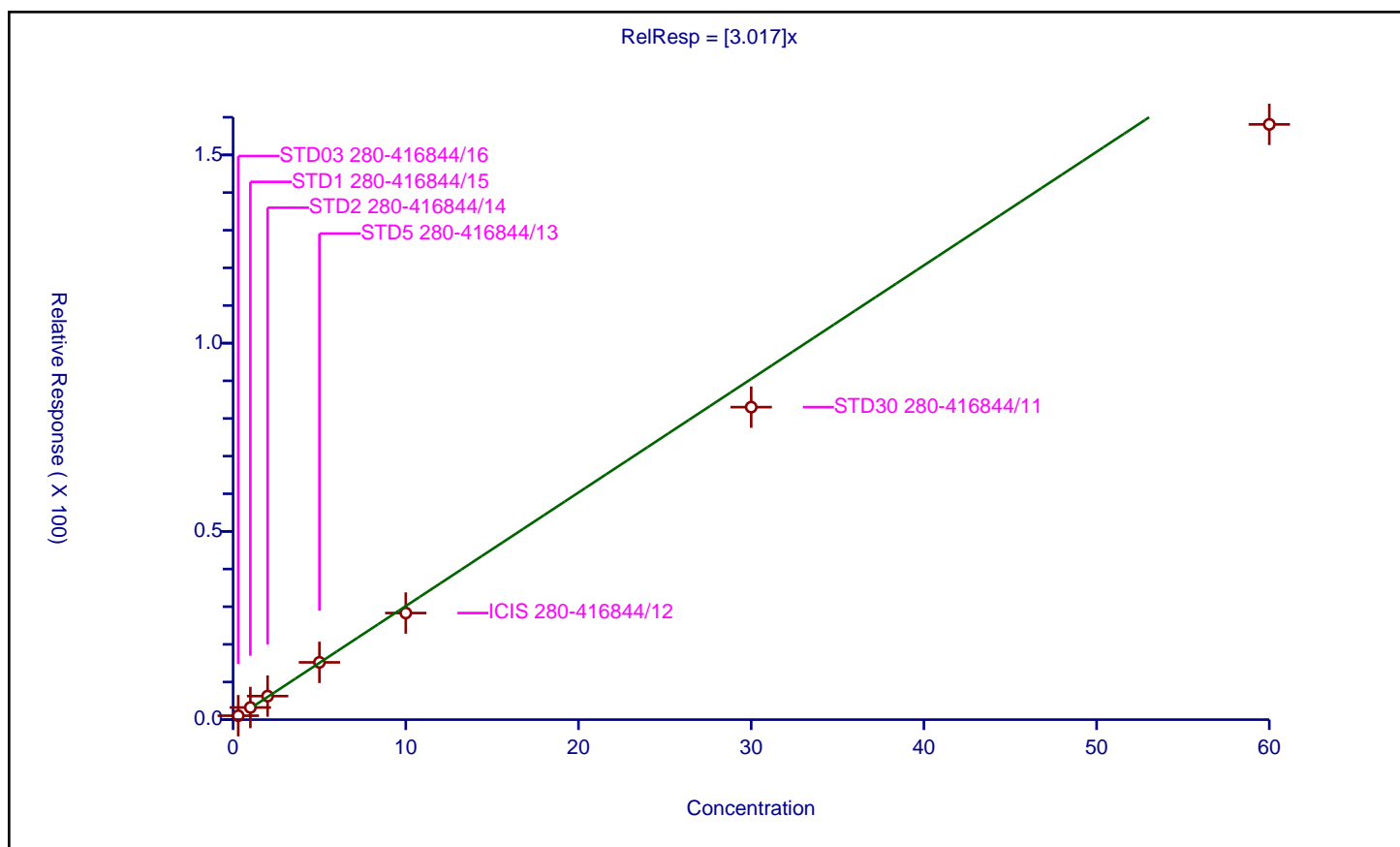
## Curve Coefficients

Intercept: 0  
 Slope: 3.017

## Error Coefficients

Standard Error: 2190000  
 Relative Standard Error: 9.7  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.044911	12.5	399065.0	3.483037	Y
2	STD1 280-416844/15	1.0	3.22903	12.5	384895.0	3.22903	Y
3	STD2 280-416844/14	2.0	6.253482	12.5	416370.0	3.126741	Y
4	STD5 280-416844/13	5.0	15.214328	12.5	401697.0	3.042866	Y
5	ICIS 280-416844/12	10.0	28.319181	12.5	406595.0	2.831918	Y
6	STD30 280-416844/11	30.0	83.00671	12.5	367804.0	2.76689	Y
7	STD60 280-416844/10	60.0	158.109971	12.5	369038.0	2.635166	Y





# Calibration

/ sec-Butylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

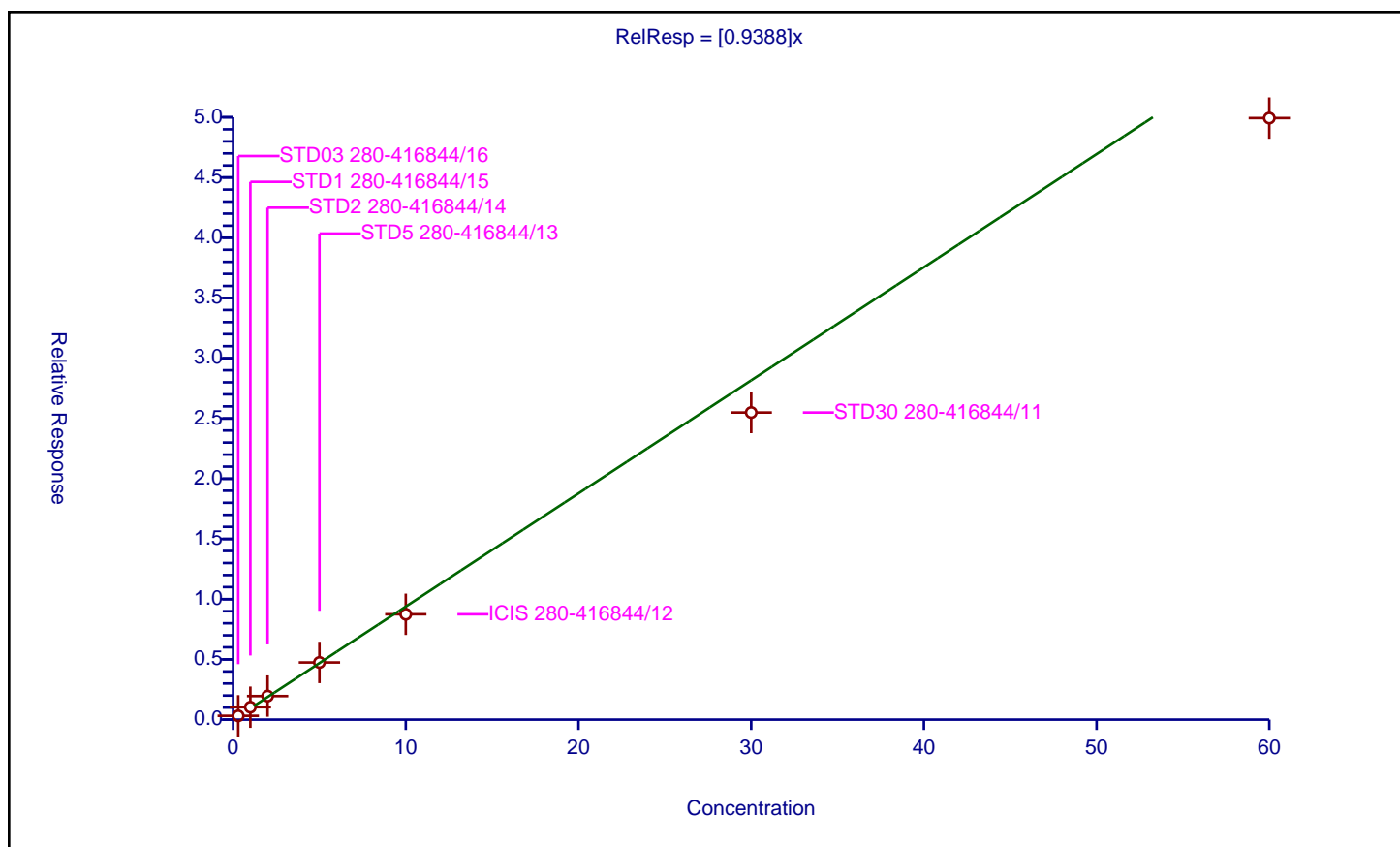
## Curve Coefficients

Intercept: 0  
 Slope: 0.9388

## Error Coefficients

Standard Error: 689000  
 Relative Standard Error: 9.5  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.988

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.316396	12.5	399065.0	1.054653	Y
2	STD1 280-416844/15	1.0	1.033723	12.5	384895.0	1.033723	Y
3	STD2 280-416844/14	2.0	1.955562	12.5	416370.0	0.977781	Y
4	STD5 280-416844/13	5.0	4.746861	12.5	401697.0	0.949372	Y
5	ICIS 280-416844/12	10.0	8.744174	12.5	406595.0	0.874417	Y
6	STD30 280-416844/11	30.0	25.492348	12.5	367804.0	0.849745	Y
7	STD60 280-416844/10	60.0	49.933476	12.5	369038.0	0.832225	Y





## Calibration

/ 4-Isopropyltoluene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

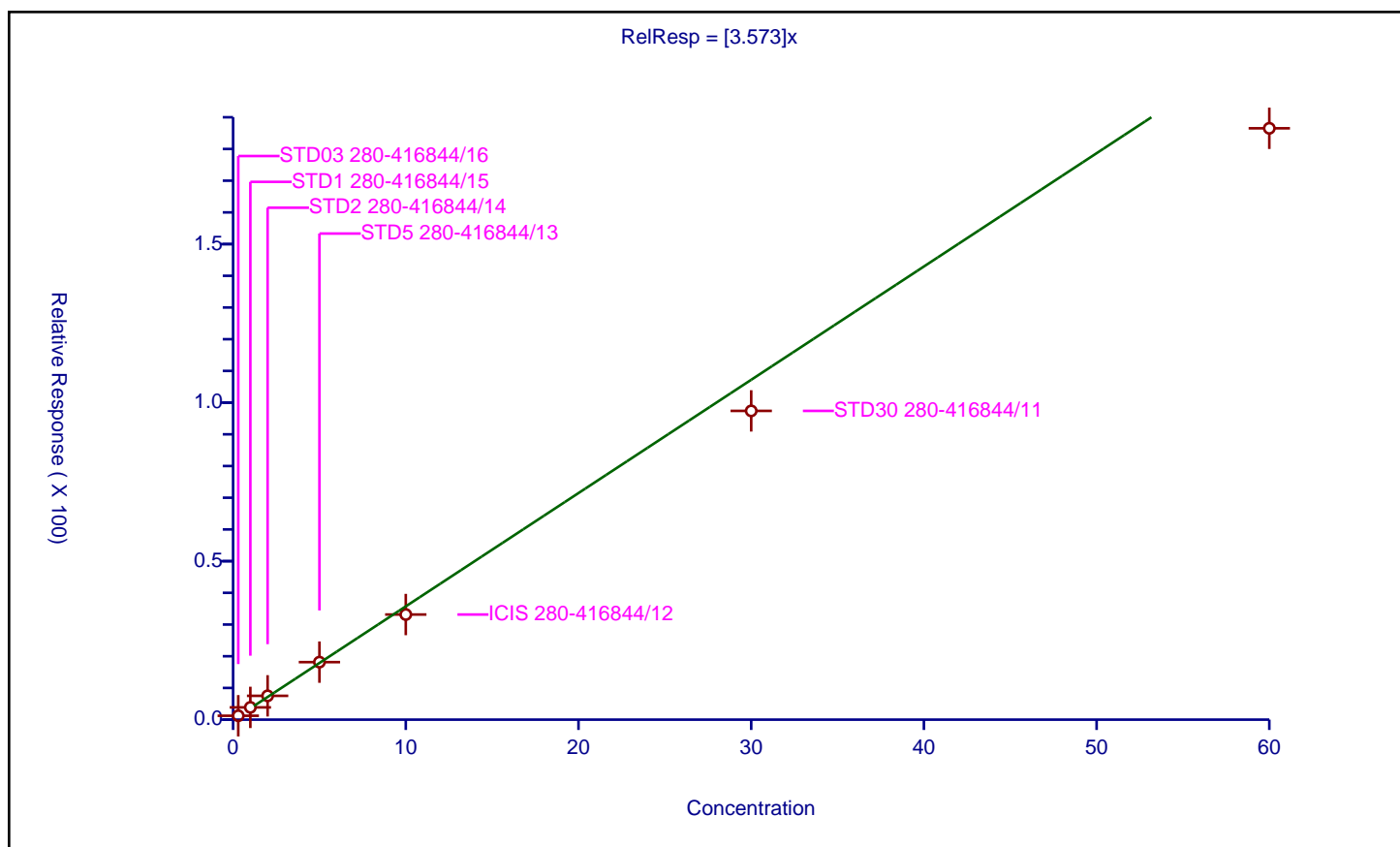
### Curve Coefficients

Intercept: 0  
 Slope: 3.573

### Error Coefficients

Standard Error: 2590000  
 Relative Standard Error: 10.1  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.228716	12.5	399065.0	4.09572	Y
2	STD1 280-416844/15	1.0	3.864138	12.5	384895.0	3.864138	Y
3	STD2 280-416844/14	2.0	7.509427	12.5	416370.0	3.754713	Y
4	STD5 280-416844/13	5.0	18.139014	12.5	401697.0	3.627803	Y
5	ICIS 280-416844/12	10.0	33.152984	12.5	406595.0	3.315298	Y
6	STD30 280-416844/11	30.0	97.389133	12.5	367804.0	3.246304	Y
7	STD60 280-416844/10	60.0	186.526252	12.5	369038.0	3.108771	Y





## Calibration

/ 1,3-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

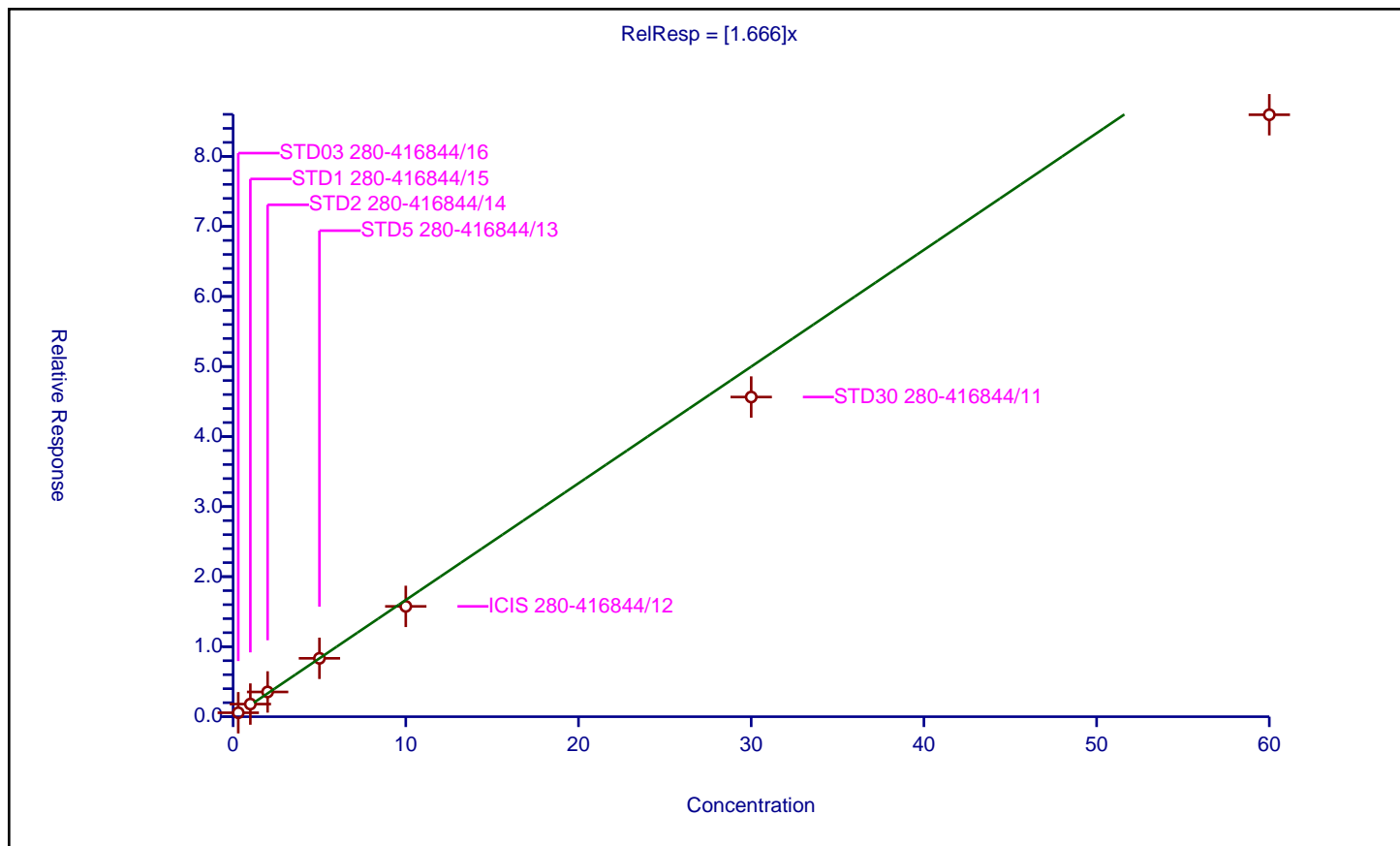
### Curve Coefficients

Intercept: 0  
 Slope: 1.666

### Error Coefficients

Standard Error: 1200000  
 Relative Standard Error: 9.9  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.987

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.567295	12.5	399065.0	1.890983	Y
2	STD1 280-416844/15	1.0	1.807798	12.5	384895.0	1.807798	Y
3	STD2 280-416844/14	2.0	3.535888	12.5	416370.0	1.767944	Y
4	STD5 280-416844/13	5.0	8.336227	12.5	401697.0	1.667245	Y
5	ICIS 280-416844/12	10.0	15.753698	12.5	406595.0	1.57537	Y
6	STD30 280-416844/11	30.0	45.643196	12.5	367804.0	1.52144	Y
7	STD60 280-416844/10	60.0	85.948026	12.5	369038.0	1.432467	Y





# Calibration

/ 1,4-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

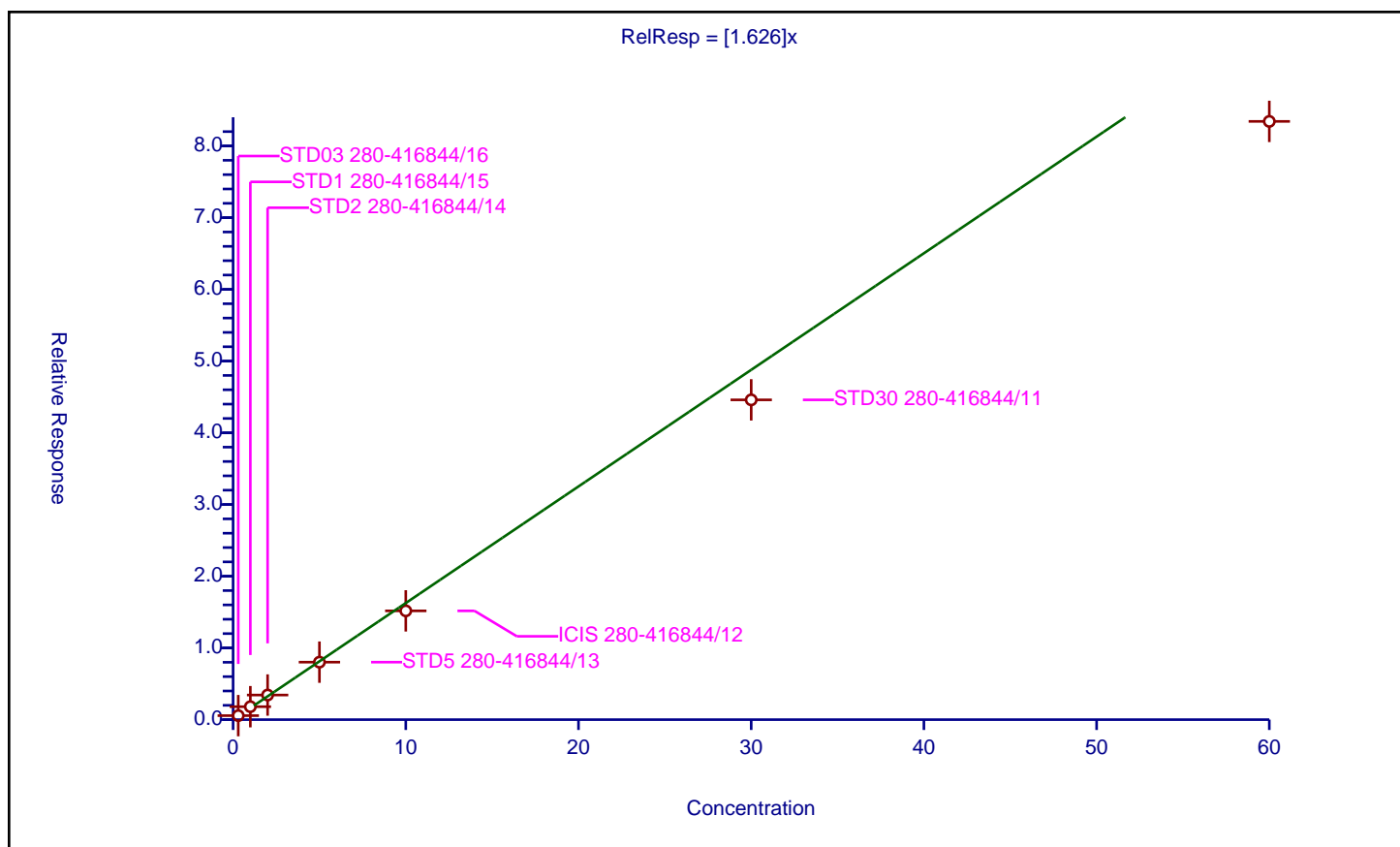
## Curve Coefficients

Intercept: 0  
 Slope: 1.626

## Error Coefficients

Standard Error: 1160000  
 Relative Standard Error: 10.8  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.558618	12.5	399065.0	1.862061	Y
2	STD1 280-416844/15	1.0	1.806824	12.5	384895.0	1.806824	Y
3	STD2 280-416844/14	2.0	3.431353	12.5	416370.0	1.715677	Y
4	STD5 280-416844/13	5.0	8.014934	12.5	401697.0	1.602987	Y
5	ICIS 280-416844/12	10.0	15.170132	12.5	406595.0	1.517013	Y
6	STD30 280-416844/11	30.0	44.5942	12.5	367804.0	1.486473	Y
7	STD60 280-416844/10	60.0	83.4242	12.5	369038.0	1.390403	Y





## Calibration

/ n-Butylbenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

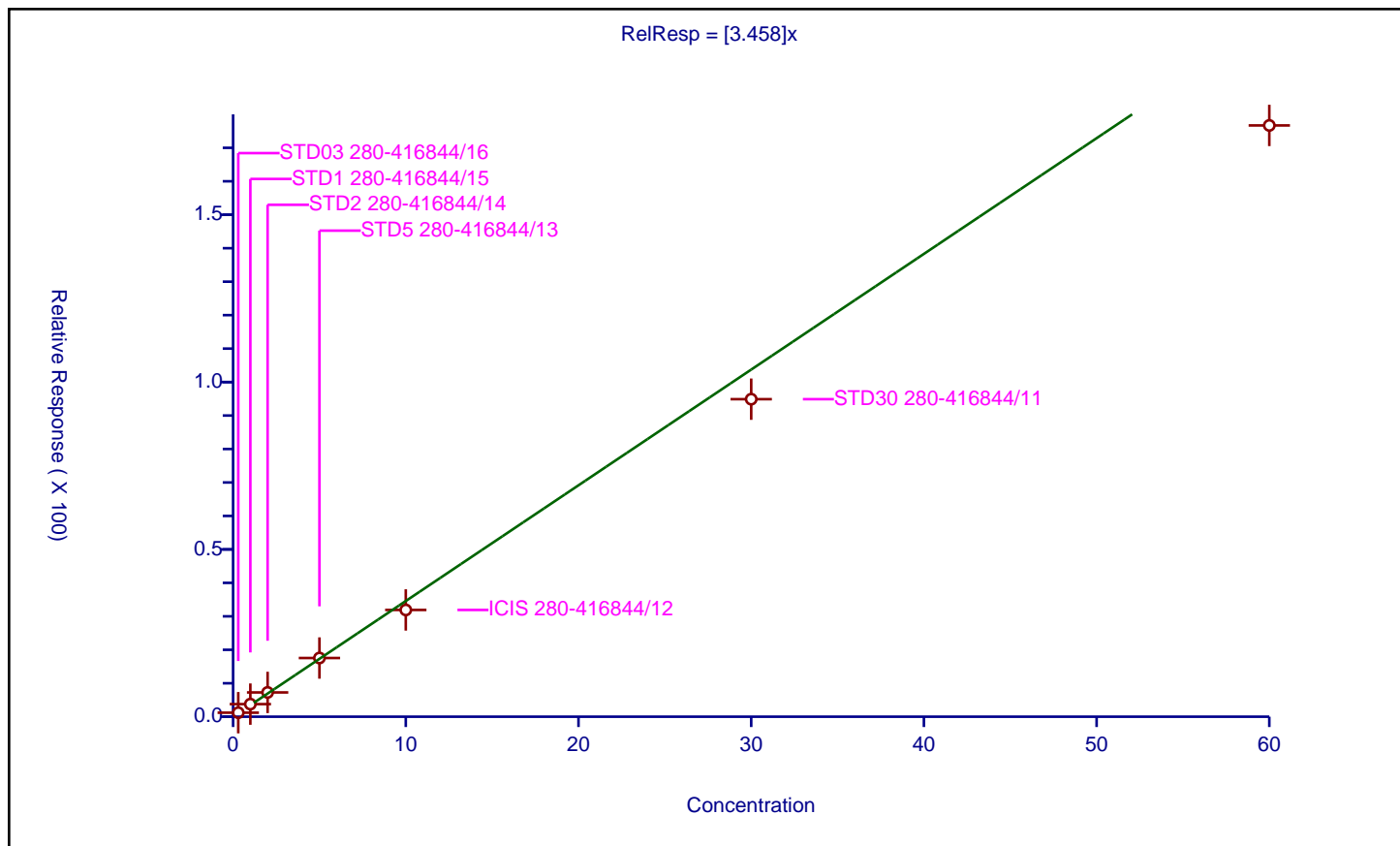
### Curve Coefficients

Intercept: 0  
 Slope: 3.458

### Error Coefficients

Standard Error: 2470000  
 Relative Standard Error: 10.9  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.984

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	1.201026	12.5	399065.0	4.00342	Y
2	STD1 280-416844/15	1.0	3.764403	12.5	384895.0	3.764403	Y
3	STD2 280-416844/14	2.0	7.257818	12.5	416370.0	3.628909	Y
4	STD5 280-416844/13	5.0	17.542607	12.5	401697.0	3.508521	Y
5	ICIS 280-416844/12	10.0	31.901401	12.5	406595.0	3.19014	Y
6	STD30 280-416844/11	30.0	94.890009	12.5	367804.0	3.163	Y
7	STD60 280-416844/10	60.0	176.692068	12.5	369038.0	2.944868	Y





# Calibration

/ 1,2-Dichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

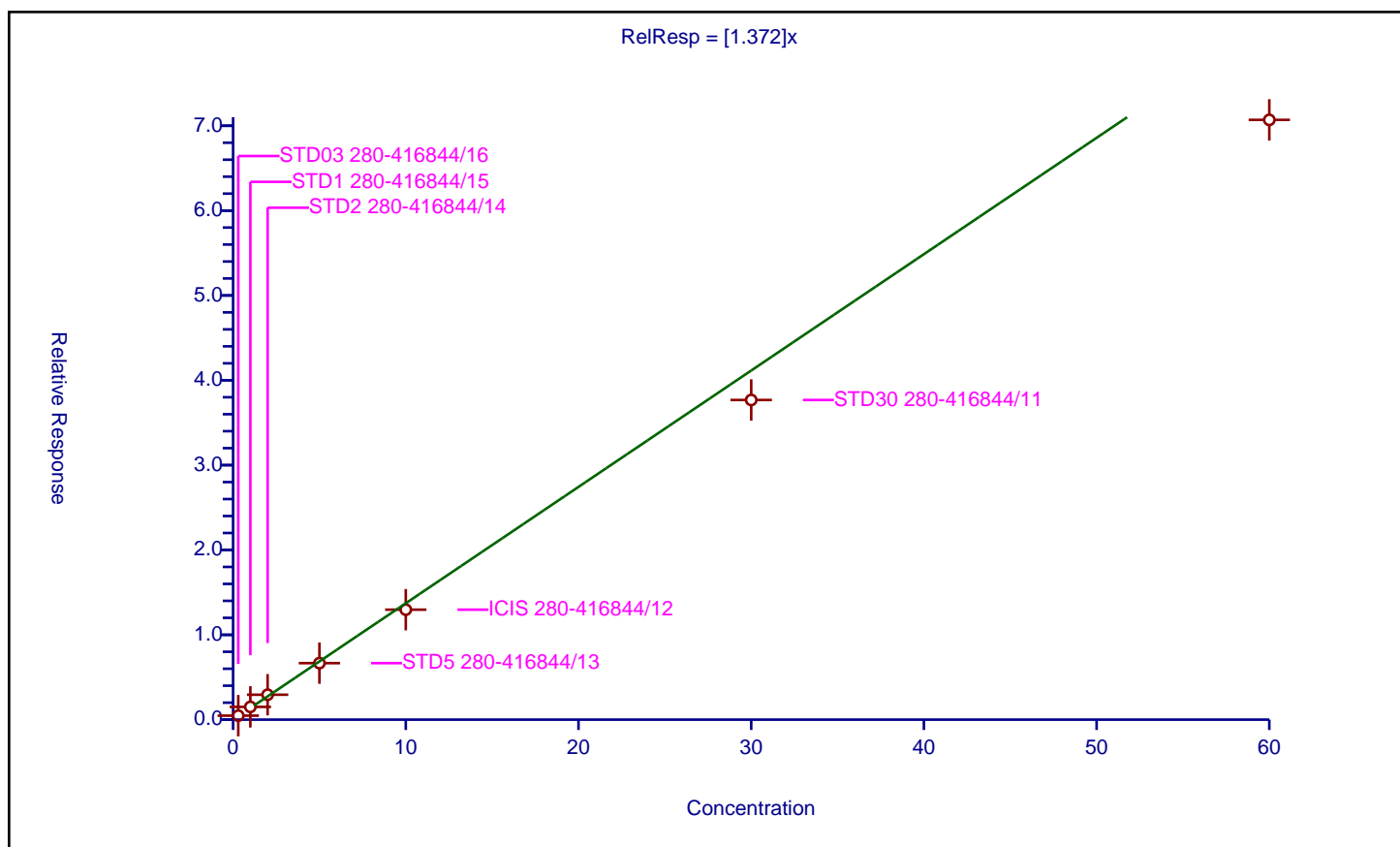
## Curve Coefficients

Intercept: 0  
 Slope: 1.372

## Error Coefficients

Standard Error: 985000  
 Relative Standard Error: 10.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.469566	12.5	399065.0	1.565221	Y
2	STD1 280-416844/15	1.0	1.503657	12.5	384895.0	1.503657	Y
3	STD2 280-416844/14	2.0	2.939333	12.5	416370.0	1.469666	Y
4	STD5 280-416844/13	5.0	6.660368	12.5	401697.0	1.332074	Y
5	ICIS 280-416844/12	10.0	12.962715	12.5	406595.0	1.296271	Y
6	STD30 280-416844/11	30.0	37.677234	12.5	367804.0	1.255908	Y
7	STD60 280-416844/10	60.0	70.692381	12.5	369038.0	1.178206	Y





## Calibration

/ 1,2-Dibromo-3-Chloropropane

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

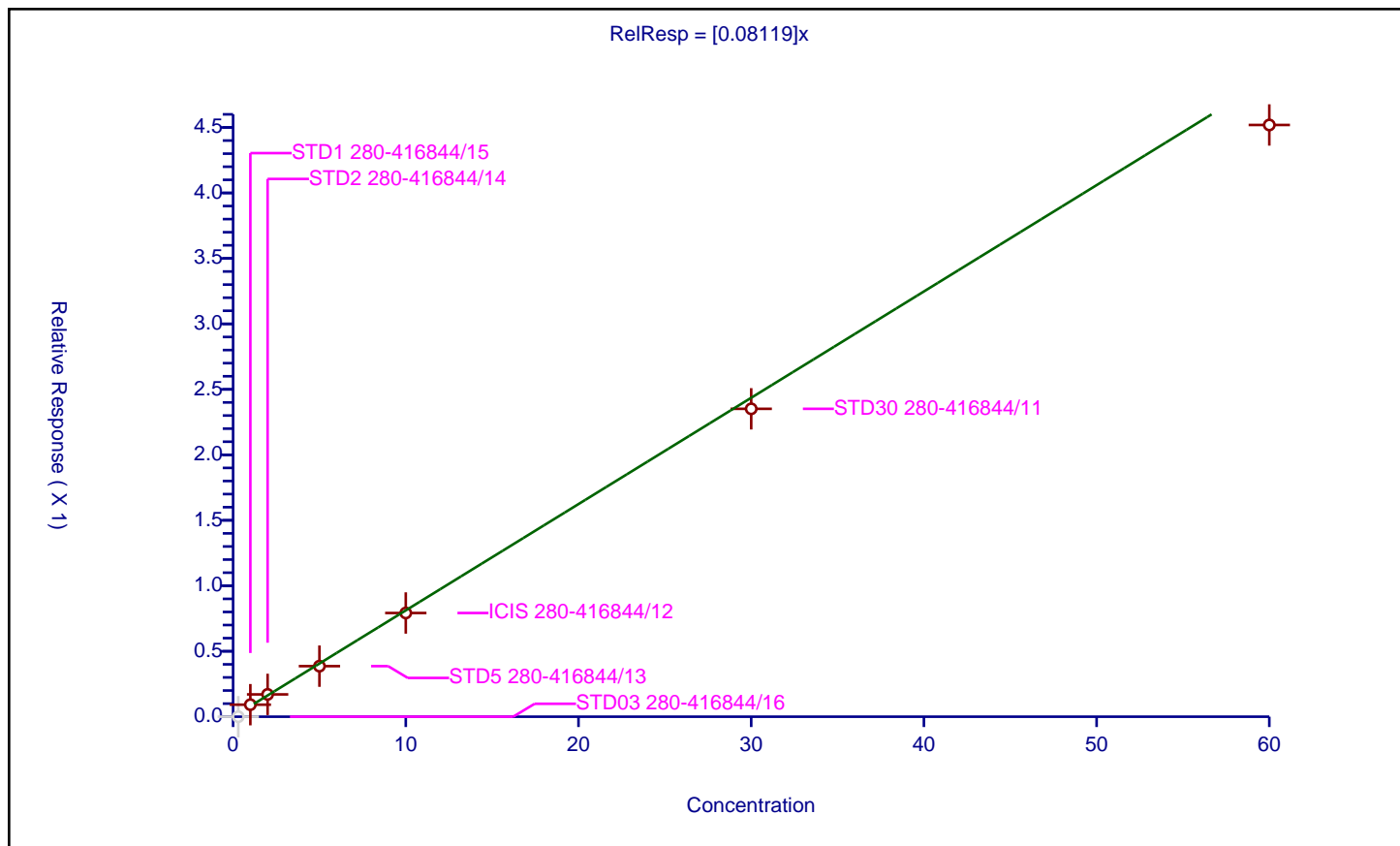
### Curve Coefficients

Intercept: 0  
 Slope: 0.08119

### Error Coefficients

Standard Error: 68500  
 Relative Standard Error: 7.6  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.0	12.5	399065.0	0.0	N
2	STD1 280-416844/15	1.0	0.091778	12.5	384895.0	0.091778	Y
3	STD2 280-416844/14	2.0	0.170461	12.5	416370.0	0.085231	Y
4	STD5 280-416844/13	5.0	0.386081	12.5	401697.0	0.077216	Y
5	ICIS 280-416844/12	10.0	0.792035	12.5	406595.0	0.079204	Y
6	STD30 280-416844/11	30.0	2.351286	12.5	367804.0	0.078376	Y
7	STD60 280-416844/10	60.0	4.519081	12.5	369038.0	0.075318	Y





# Calibration

/ 1,2,4-Trichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

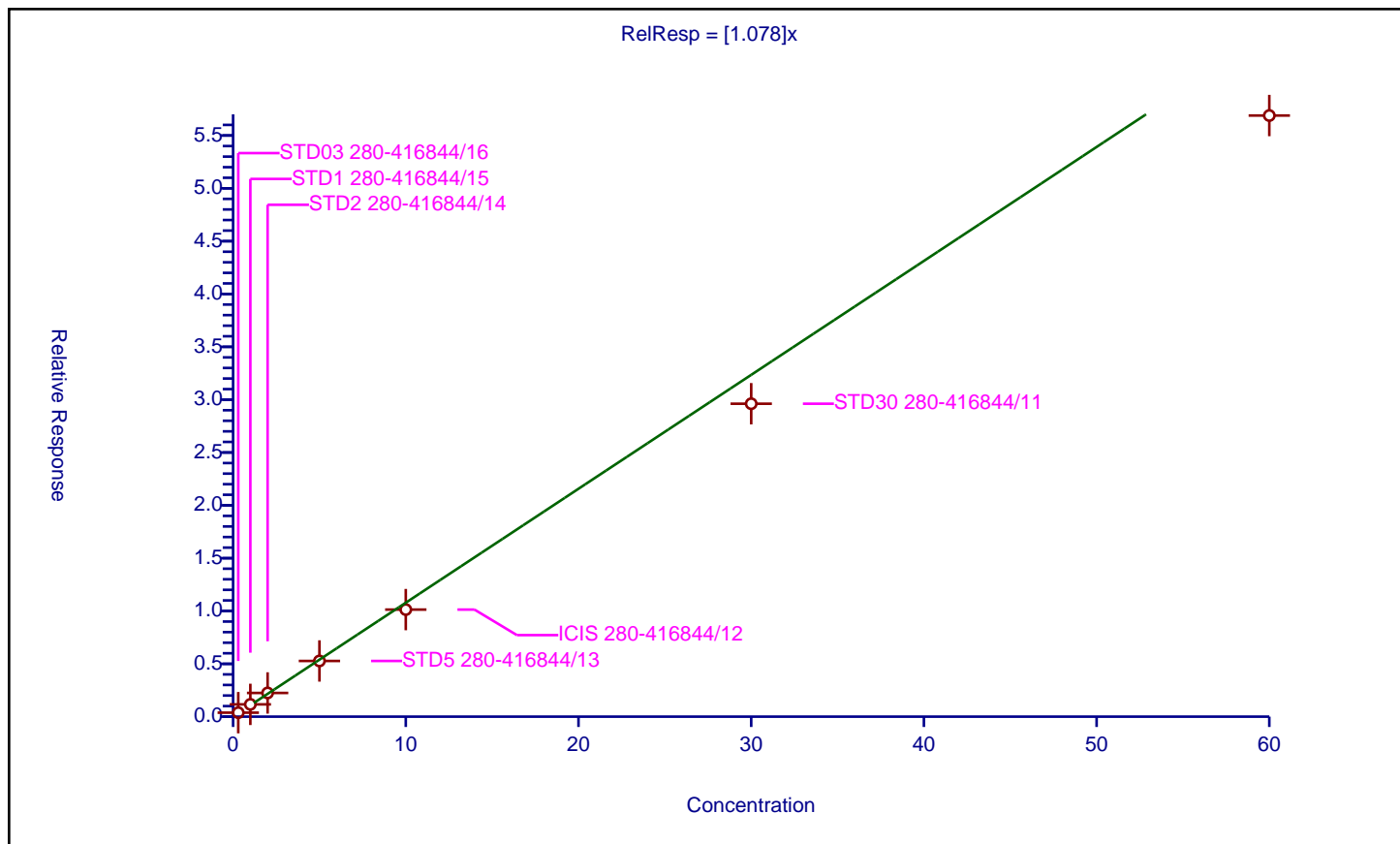
## Curve Coefficients

Intercept: 0  
 Slope: 1.078

## Error Coefficients

Standard Error: 788000  
 Relative Standard Error: 10.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.378165	12.5	399065.0	1.260551	Y
2	STD1 280-416844/15	1.0	1.1622	12.5	384895.0	1.1622	Y
3	STD2 280-416844/14	2.0	2.244458	12.5	416370.0	1.122229	Y
4	STD5 280-416844/13	5.0	5.271604	12.5	401697.0	1.054321	Y
5	ICIS 280-416844/12	10.0	10.132072	12.5	406595.0	1.013207	Y
6	STD30 280-416844/11	30.0	29.615502	12.5	367804.0	0.987183	Y
7	STD60 280-416844/10	60.0	56.887976	12.5	369038.0	0.948133	Y





## Calibration

/ Hexachlorobutadiene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

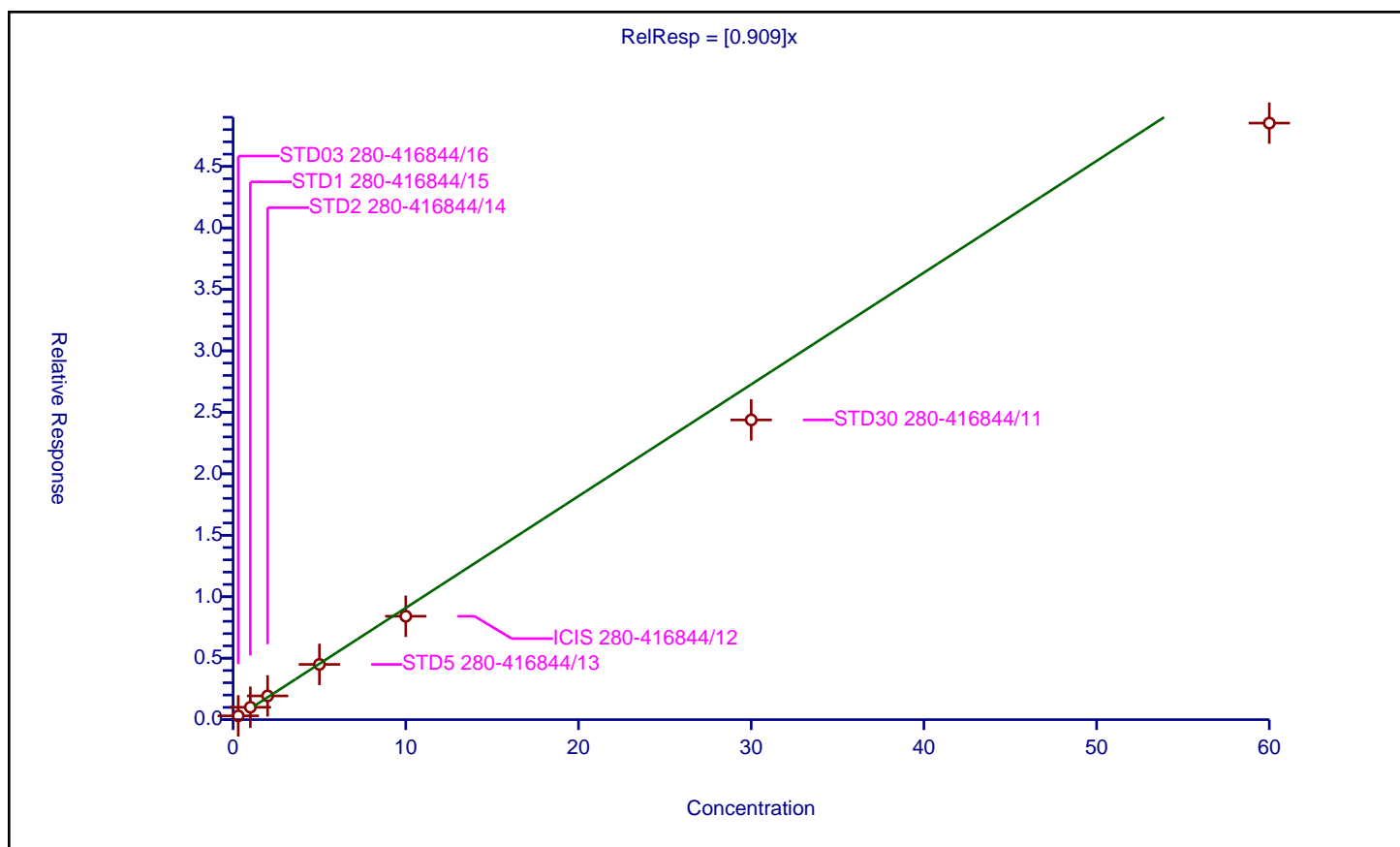
### Curve Coefficients

Intercept: 0  
 Slope: 0.909

### Error Coefficients

Standard Error: 667000  
 Relative Standard Error: 10.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.986

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.308314	12.5	399065.0	1.027715	Y
2	STD1 280-416844/15	1.0	1.009009	12.5	384895.0	1.009009	Y
3	STD2 280-416844/14	2.0	1.930014	12.5	416370.0	0.965007	Y
4	STD5 280-416844/13	5.0	4.493001	12.5	401697.0	0.8986	Y
5	ICIS 280-416844/12	10.0	8.41178	12.5	406595.0	0.841178	Y
6	STD30 280-416844/11	30.0	24.3816	12.5	367804.0	0.81272	Y
7	STD60 280-416844/10	60.0	48.525355	12.5	369038.0	0.808756	Y





## Calibration

/ Naphthalene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

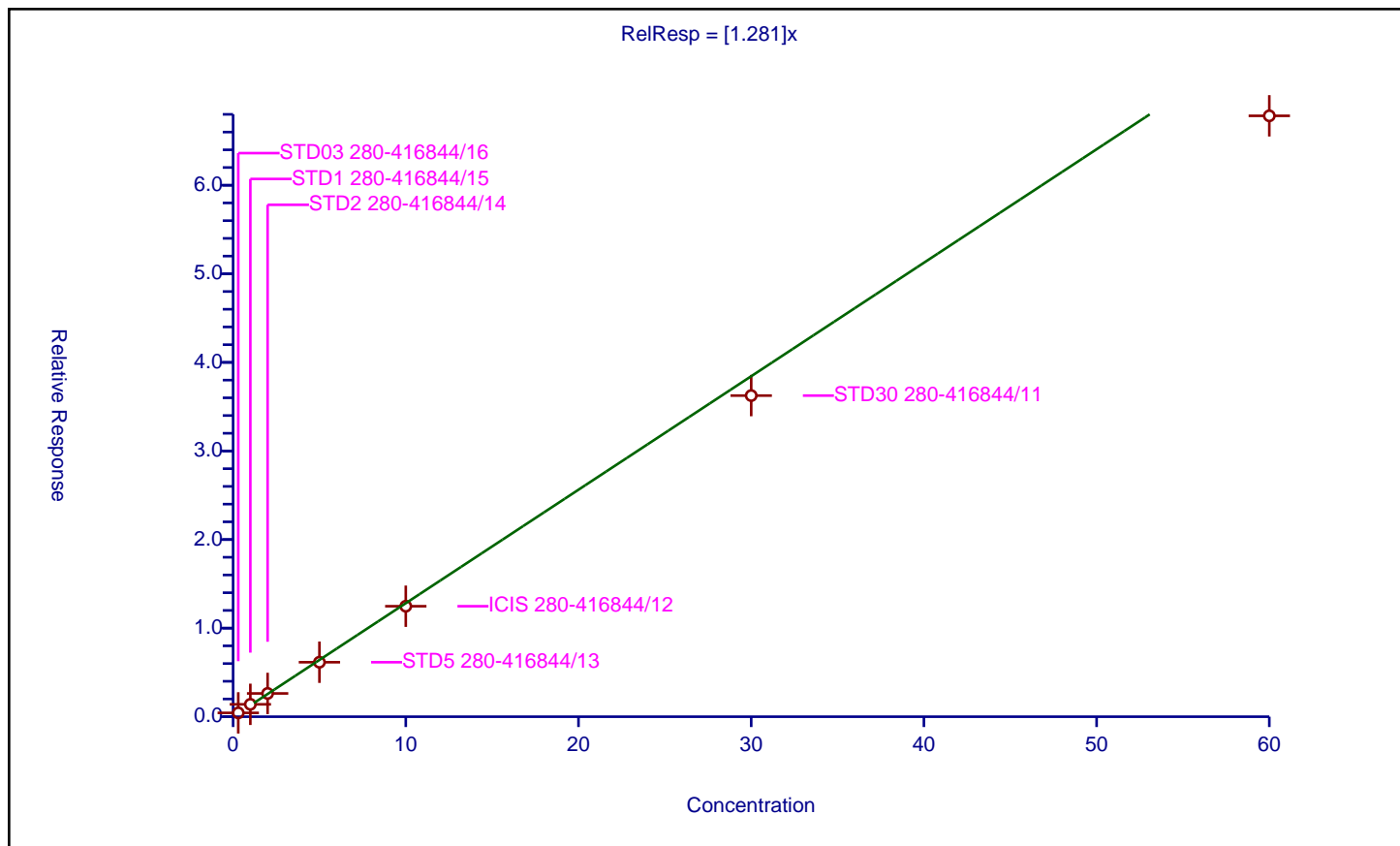
### Curve Coefficients

Intercept: 0  
 Slope: 1.281

### Error Coefficients

Standard Error: 945000  
 Relative Standard Error: 8.5  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.990

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.431791	12.5	399065.0	1.439302	Y
2	STD1 280-416844/15	1.0	1.400252	12.5	384895.0	1.400252	Y
3	STD2 280-416844/14	2.0	2.62573	12.5	416370.0	1.312865	Y
4	STD5 280-416844/13	5.0	6.149878	12.5	401697.0	1.229976	Y
5	ICIS 280-416844/12	10.0	12.471593	12.5	406595.0	1.247159	Y
6	STD30 280-416844/11	30.0	36.252359	12.5	367804.0	1.208412	Y
7	STD60 280-416844/10	60.0	67.835596	12.5	369038.0	1.130593	Y





## Calibration

/ 1,2,3-Trichlorobenzene

Curve Type: Average  
 Weighting: Conc\_Sq  
 Origin: Force  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

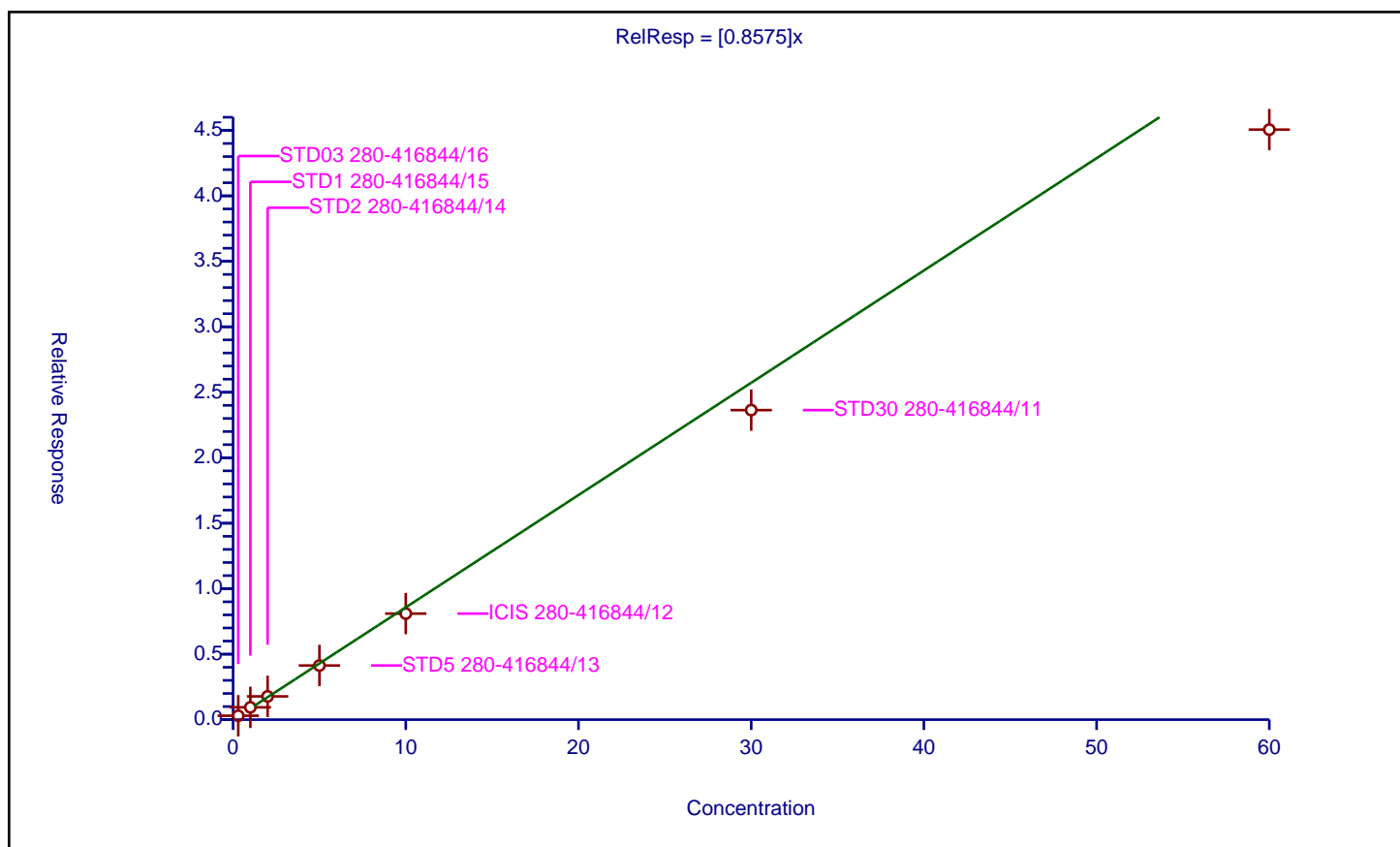
### Curve Coefficients

Intercept: 0  
 Slope: 0.8575

### Error Coefficients

Standard Error: 625000  
 Relative Standard Error: 10.3  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.985

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD03 280-416844/16	0.3	0.299638	12.5	399065.0	0.998793	Y
2	STD1 280-416844/15	1.0	0.940094	12.5	384895.0	0.940094	Y
3	STD2 280-416844/14	2.0	1.776665	12.5	416370.0	0.888332	Y
4	STD5 280-416844/13	5.0	4.133464	12.5	401697.0	0.826693	Y
5	ICIS 280-416844/12	10.0	8.098015	12.5	406595.0	0.809802	Y
6	STD30 280-416844/11	30.0	23.637386	12.5	367804.0	0.787913	Y
7	STD60 280-416844/10	60.0	45.057284	12.5	369038.0	0.750955	Y





FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 418481

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/13/2018 21:22 Calibration End Date: 06/13/2018 22:46 Calibration ID: 32691

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 280-418481/10	MS9_1296.D
Level 2	STD5 280-418481/11	MS9_1297.D
Level 3	STD10 280-418481/12	MS9_1298.D
Level 4	STD30 280-418481/13	MS9_1299.D
Level 5	STD60 280-418481/14	MS9_1300.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dibromofluoromethane (Surr)	0.3550	0.3746	0.2766	0.2647	0.2508	Lin1	0.3205	0.2499							0.9950		0.9900
1,2-Dichloroethane-d4 (Surr)	0.3121	0.3207	0.2396	0.2275	0.2184	Lin1	0.2774	0.2165							0.9960		0.9900
Toluene-d8 (Surr)	4.9077	5.0331	3.7398	3.5963	3.2892	Lin1	4.7382	3.3077							0.9940		0.9900
4-Bromofluorobenzene (Surr)	1.1664	1.1642	0.8959	0.8607	0.8111	Lin1	1.0024	0.8092							0.9960		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 418481

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 06/13/2018 21:22 Calibration End Date: 06/13/2018 22:46 Calibration ID: 32691

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 280-418481/10	MS9_1296.D
Level 2	STD5 280-418481/11	MS9_1297.D
Level 3	STD10 280-418481/12	MS9_1298.D
Level 4	STD30 280-418481/13	MS9_1299.D
Level 5	STD60 280-418481/14	MS9_1300.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Dibromofluoromethane (Surr)	FB	Lin1	75824	155156	272708	725885	1339618	2.00	5.00	10.0	30.0	60.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin1	66658	132826	236229	623999	1166588	2.00	5.00	10.0	30.0	60.0
Toluene-d8 (Surr)	CBNZd	Lin1	277620	559156	973830	2595676	4706526	2.00	5.00	10.0	30.0	60.0
4-Bromofluorobenzene (Surr)	DCBd4	Lin1	102733	198596	360435	947771	1769816	2.00	5.00	10.0	30.0	60.0

Curve Type Legend:

Lin1 = Linear 1/conc ISTD



## Calibration

/ Dibromofluoromethane (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

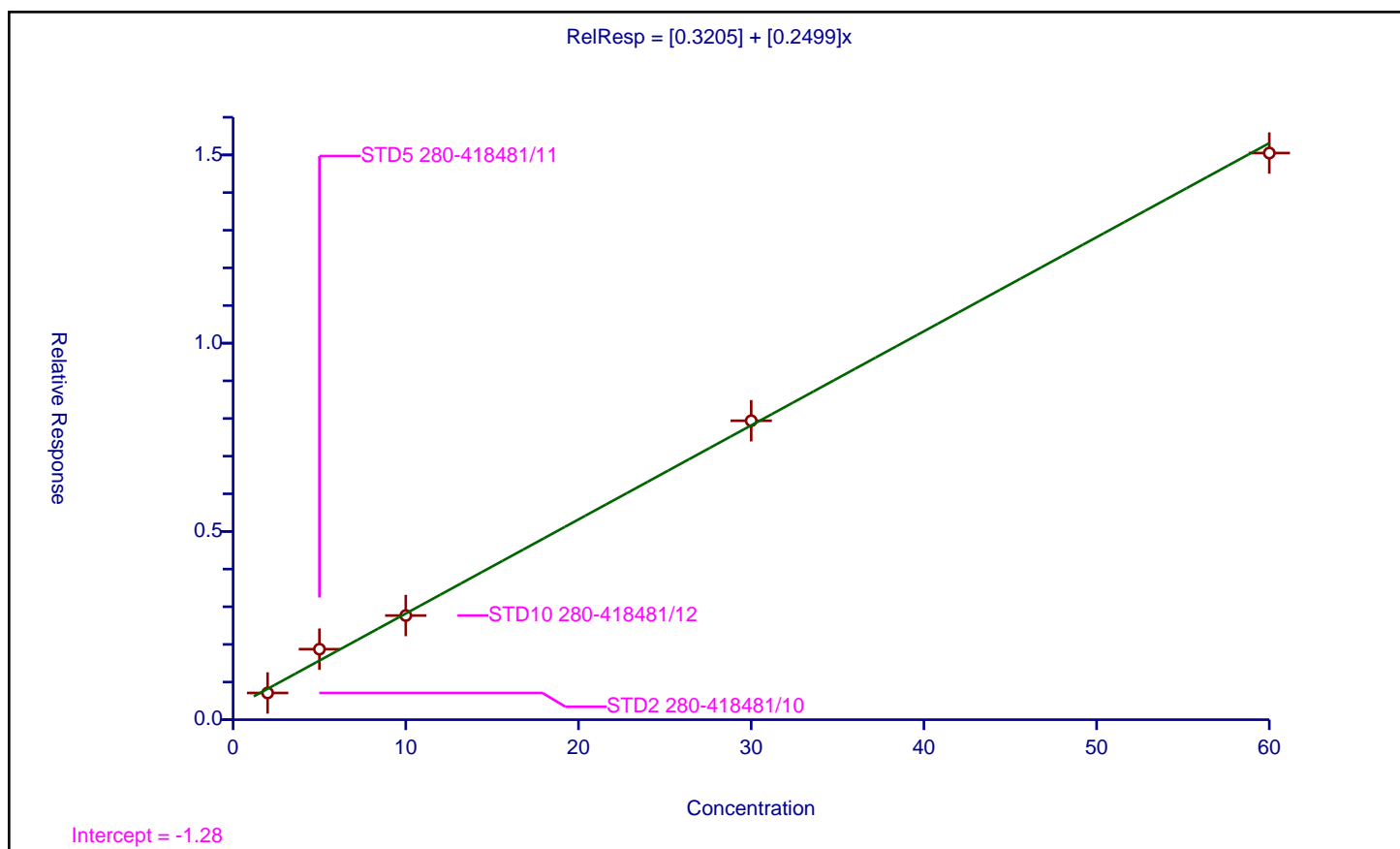
### Curve Coefficients

Intercept: 0.3205  
 Slope: 0.2499

### Error Coefficients

Standard Error: 899000  
 Relative Standard Error: 19.0  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.995

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	0.710068	12.5	1334802.0	0.355034	Y
2	STD5 280-418481/11	5.0	1.873226	12.5	1035353.0	0.374645	Y
3	STD10 280-418481/12	10.0	2.766466	12.5	1232204.0	0.276647	Y
4	STD30 280-418481/13	30.0	7.940063	12.5	1142757.0	0.264669	Y
5	STD60 280-418481/14	60.0	15.050467	12.5	1112605.0	0.250841	Y





## Calibration

/ 1,2-Dichloroethane-d4 (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

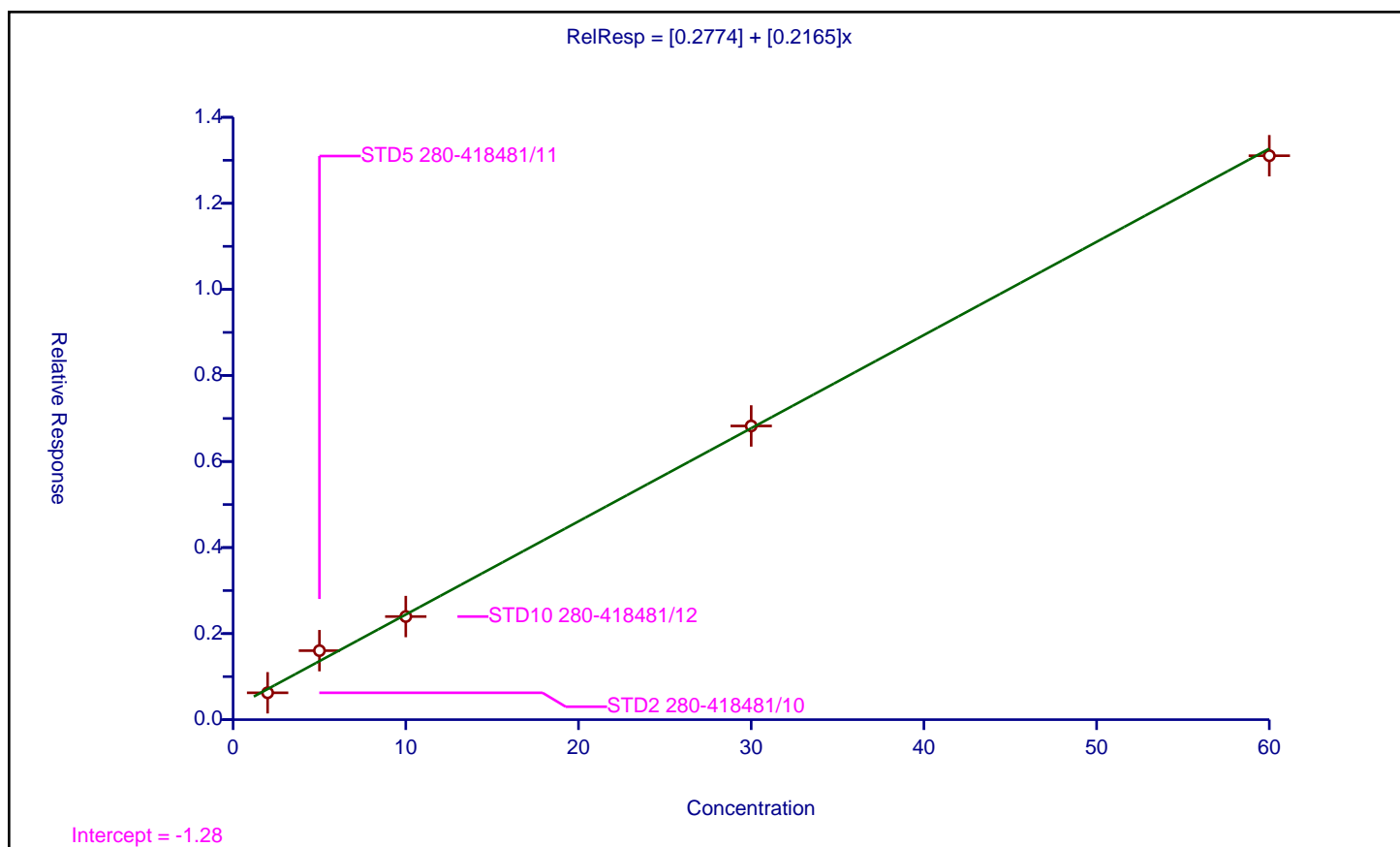
### Curve Coefficients

Intercept: 0.2774  
 Slope: 0.2165

### Error Coefficients

Standard Error: 781000  
 Relative Standard Error: 17.4  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	0.624231	12.5	1334802.0	0.312116	Y
2	STD5 280-418481/11	5.0	1.603632	12.5	1035353.0	0.320726	Y
3	STD10 280-418481/12	10.0	2.396407	12.5	1232204.0	0.239641	Y
4	STD30 280-418481/13	30.0	6.825587	12.5	1142757.0	0.22752	Y
5	STD60 280-418481/14	60.0	13.106493	12.5	1112605.0	0.218442	Y





## Calibration

/ Toluene-d8 (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

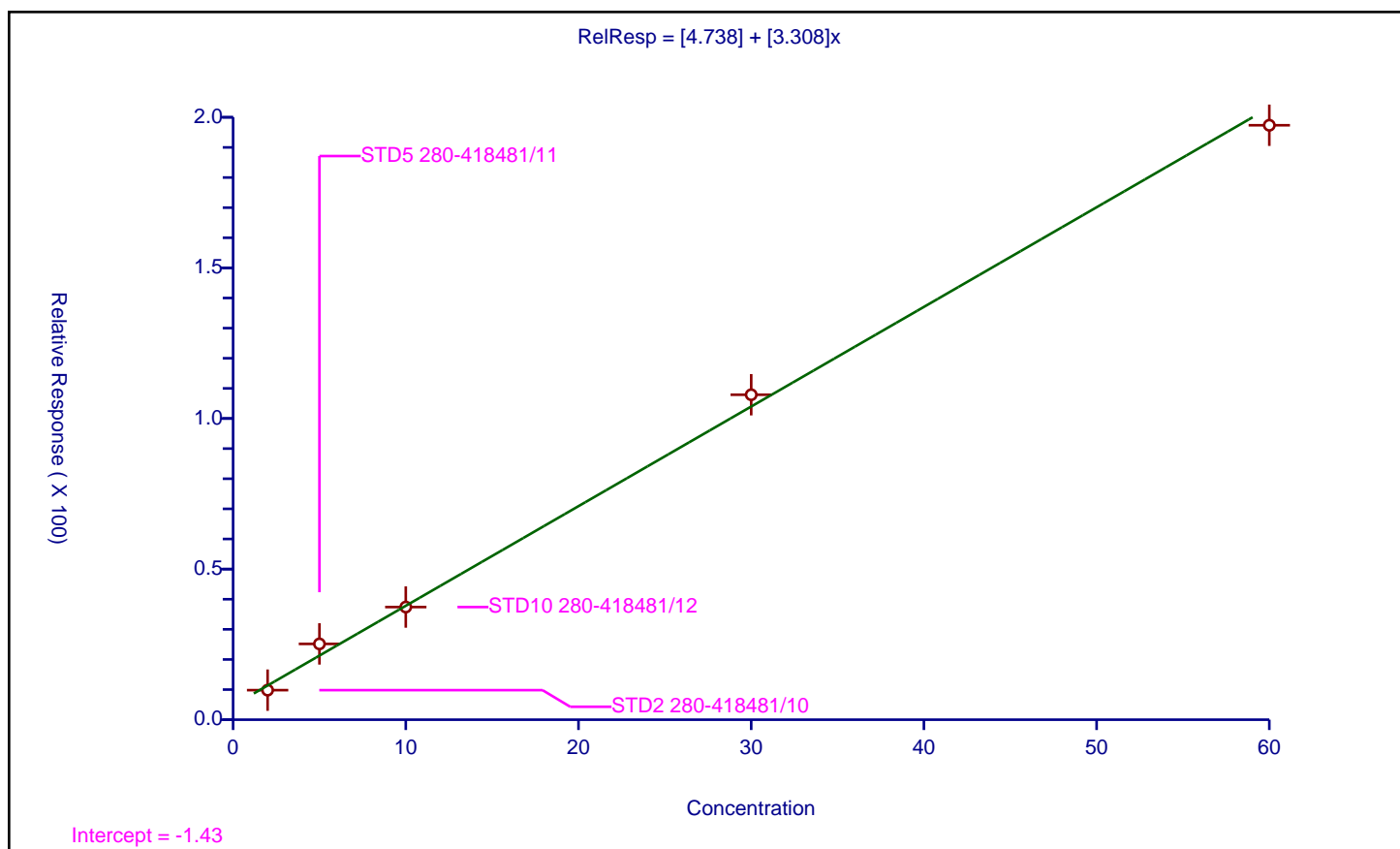
### Curve Coefficients

Intercept: 4.738  
 Slope: 3.308

### Error Coefficients

Standard Error: 3170000  
 Relative Standard Error: 19.3  
 Correlation Coefficient: 0.998  
 Coefficient of Determination (Adjusted): 0.994

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	9.81536	12.5	353553.0	4.90768	Y
2	STD5 280-418481/11	5.0	25.165533	12.5	277739.0	5.033107	Y
3	STD10 280-418481/12	10.0	37.398385	12.5	325492.0	3.739838	Y
4	STD30 280-418481/13	30.0	107.887763	12.5	300738.0	3.596259	Y
5	STD60 280-418481/14	60.0	197.34987	12.5	298108.0	3.289164	Y





## Calibration

/ 4-Bromofluorobenzene (Surr)

Curve Type: Linear  
 Weighting: Conc  
 Origin: None  
 Dependency: Response  
 Calib Mode: ISTD  
 Response Base:  
 RF Rounding: 0

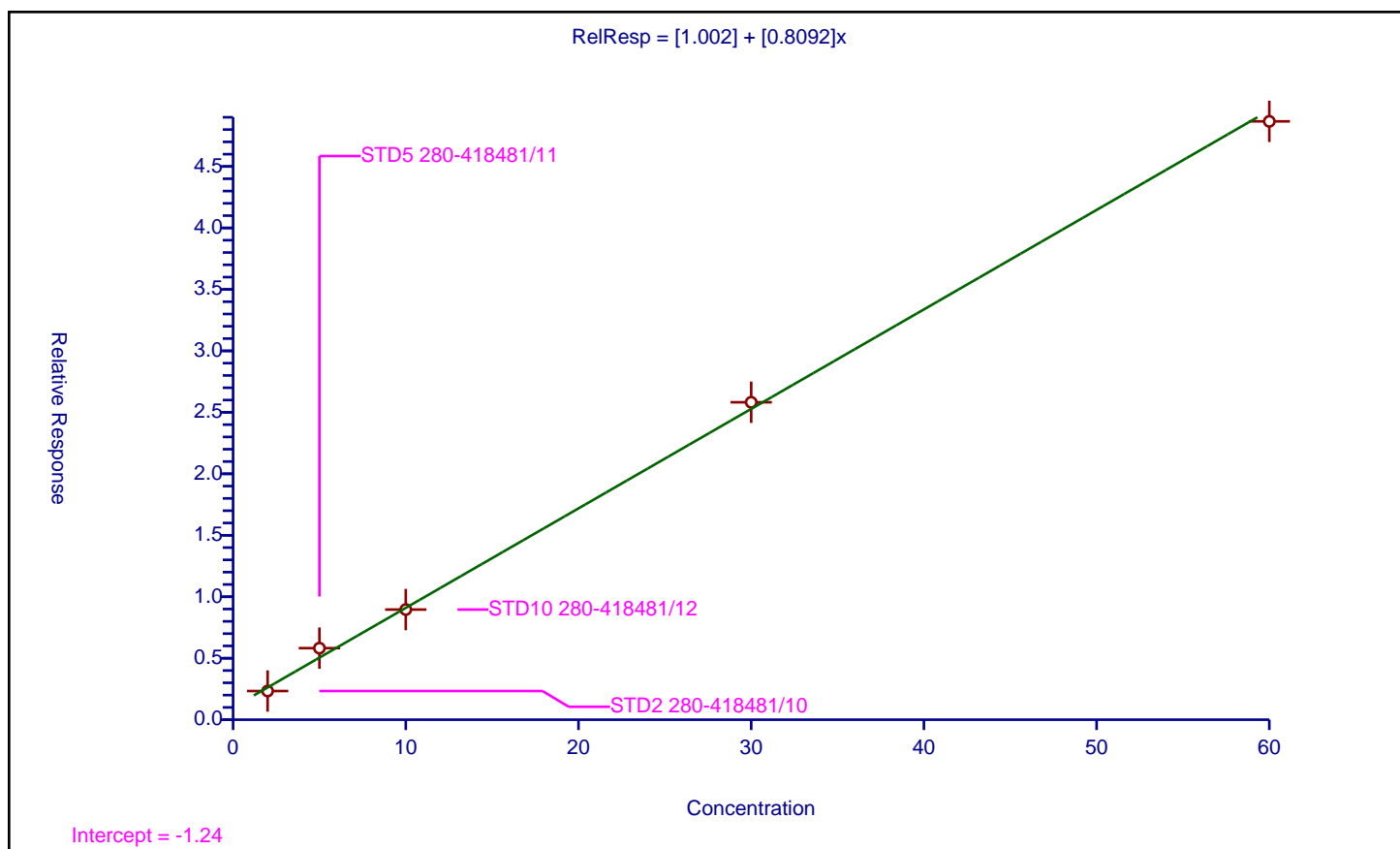
### Curve Coefficients

Intercept: 1.002  
 Slope: 0.8092

### Error Coefficients

Standard Error: 1180000  
 Relative Standard Error: 15.2  
 Correlation Coefficient: 0.999  
 Coefficient of Determination (Adjusted): 0.996

ID	Level	Concentration	Rel. Resp.	IS Amount	IS Response	RRF	Used
1	STD2 280-418481/10	2.0	2.332746	12.5	550494.0	1.166373	Y
2	STD5 280-418481/11	5.0	5.820898	12.5	426472.0	1.16418	Y
3	STD10 280-418481/12	10.0	8.959305	12.5	502878.0	0.895931	Y
4	STD30 280-418481/13	30.0	25.819983	12.5	458836.0	0.860666	Y
5	STD60 280-418481/14	60.0	48.668704	12.5	454557.0	0.811145	Y





FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-419367/16	R2077.D
Level 2	STD1 280-419367/15	R2076.D
Level 3	STD2 280-419367/14	R2075.D
Level 4	STD5 280-419367/13	R2074.D
Level 5	STD10 280-419367/12	R2073.D
Level 6	STD30 280-419367/11	R2072.D
Level 7	STD60 280-419367/10	R2071.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3007 0.4008	0.3398 0.4354	0.3722	0.4056	0.4166	Ave		0.3816				12.4		15.0			
Chloromethane	0.1595 0.1985	0.1961 0.2073	0.2004	0.2119	0.2125	Ave		0.1980			0.1000	9.2		15.0			
Vinyl chloride	0.2088 0.2334	0.2368 0.2439	0.2510	0.2515	0.2515	Ave		0.2396				6.4		30.0			
Bromomethane	0.1805 0.1595	0.1937 0.1439	0.1968	0.1915	0.1862	Ave		0.1789				11.1		15.0			
Chloroethane	0.1474 0.1327	0.1448 0.1300	0.1508	0.1479	0.1469	Ave		0.1429				5.7		15.0			
Dichlorofluoromethane	0.4215 0.4157	0.4317 0.4291	0.4487	0.4460	0.4448	Ave		0.4339				3.0		15.0			
Trichlorofluoromethane	0.4881 0.4570	0.4873 0.5011	0.4943	0.4875	0.4820	Ave		0.4853				2.9		15.0			
Ethyl ether	0.0715 0.0800	0.0742 0.0815	0.0779	0.0821	0.0810	Ave		0.0783				5.2		15.0			
Acrolein	0.0115 0.0138	0.0125 +++++	0.0130	0.0131	0.0136	Ave		0.0129				6.4		15.0			
Acetone	0.0409 0.0170	0.0231 0.0172	0.0201	0.0188	0.0186	Lin2	0.0283	0.0170							0.9980		0.9900
Freon 113	0.2888 0.3021	0.2873 0.3250	0.2951	0.3067	0.3029	Ave		0.3011				4.3		15.0			
1,1-Dichloroethene	0.3306 0.3662	0.3378 0.3810	0.3477	0.3697	0.3695	Ave		0.3575				5.3		30.0			
Iodomethane	0.4466 0.5328	0.4713 0.5505	0.4887	0.5334	0.5430	Ave		0.5095				7.9		15.0			
Methyl acetate	+++++ 0.0487	0.0497 0.0494	0.0477	0.0509	0.0509	Ave		0.0496				2.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.3824 0.4128	0.3522 0.3970	0.4099	0.4367	0.4404	Ave		0.4045				7.6		15.0			
Carbon disulfide	1.2304 1.4383	1.2878 1.4263	1.3680	1.4945	1.5002	Ave		1.3922				7.4		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	0.0031 0.0063	0.0046 0.0064	0.0055	0.0059	0.0062	Lin2	-0.010	0.0062							0.9970		0.9900
Methylene Chloride	0.4497 0.3007	0.3419 0.3089	0.3208	0.3250	0.3201	Ave		0.3382				15.0		15.0			
Acrylonitrile	0.0238 0.0293	0.0265 0.0301	0.0280	0.0305	0.0308	Ave		0.0285				8.9		15.0			
Methyl tert-butyl ether	0.2963 0.4128	0.3202 0.4209	0.3496	0.4015	0.4164	Ave		0.3739				13.7		15.0			
trans-1,2-Dichloroethene	0.3459 0.3864	0.3623 0.4020	0.3733	0.3972	0.3996	Ave		0.3810				5.6		15.0			
Hexane	1.9988 2.6759	2.3134 2.7447	2.5851	2.8538	2.8718	Ave		2.5776				12.3		15.0			
Vinyl acetate	0.1050 0.1800	0.1315 0.1848	0.1513	0.1680	0.1815	Lin2	-0.046	0.1745							0.9940		0.9900
1,1-Dichloroethane	0.5552 0.5821	0.5764 0.5943	0.5889	0.6162	0.6129	Ave		0.5894			0.1000	3.6		15.0			
2-Butanone (MEK)	++++ 0.0263	0.0257 0.0279	0.0269	0.0256	0.0268	Ave		0.0265				3.2		15.0			
sec-Butyl Alcohol	++++ 0.9760	0.7637 1.0750	0.8186	0.8922	0.9418	Ave		0.9112				12.3		15.0			
cis-1,2-Dichloroethene	0.3183 0.3750	0.3410 0.3864	0.3542	0.3834	0.3854	Ave		0.3634				7.2		15.0			
2,2-Dichloropropane	0.3820 0.4933	0.4029 0.5308	0.4348	0.4589	0.4769	Ave		0.4542				11.4		15.0			
Chlorobromomethane	0.0949 0.1157	0.1041 0.1213	0.1118	0.1155	0.1190	Ave		0.1118				8.3		15.0			
Chloroform	0.4989 0.5378	0.5160 0.5561	0.5264	0.5558	0.5569	Ave		0.5354				4.3		30.0			
Tetrahydrofuran	++++ 0.0178	0.0128 0.0182	0.0142	0.0161	0.0170	Ave		0.0160				13.1		15.0			
Isobutyl alcohol	++++ 0.4263	0.3620 0.4594	0.4216	0.4234	0.4211	Ave		0.4189				7.5		15.0			
1,1,1-Trichloroethane	0.4420 0.5522	0.4659 0.5928	0.5012	0.5360	0.5447	Ave		0.5193				10.1		15.0			
Cyclohexane	0.4263 0.6436	0.5281 0.6308	0.6242	0.6787	0.6709	Lin2	-0.072	0.6536							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.3922 0.5283	0.4896 0.5353	0.5281	0.5544	0.5464	Ave		0.5106				11.0		15.0			
Carbon tetrachloride	0.3870 0.5039	0.4160 0.5485	0.4467	0.4800	0.4918	Ave		0.4677				11.8		15.0			
1,2-Dichloroethane	0.2222 0.2402	0.2292 0.2515	0.2347	0.2471	0.2480	Ave		0.2390				4.5		15.0			
Benzene	1.2716 1.4173	1.3931 1.4068	1.4325	1.5115	1.4850	Ave		1.4168				5.4		15.0			
n-Heptane	0.2970 0.4765	0.3954 0.4648	0.4572	0.5088	0.4988	Lin2	-0.059	0.4863							0.9970		0.9900
Trichloroethene	0.3261 0.3775	0.3343 0.4007	0.3448	0.3698	0.3717	Ave		0.3607				7.4		15.0			
2-Pentanone	++++ 0.0458	0.0321 0.0469	0.0354	0.0416	0.0435	Ave		0.0409				14.4		15.0			
1,2-Dichloropropane	0.2618 0.2805	0.2716 0.2757	0.2741	0.2938	0.2915	Ave		0.2784				4.0		30.0			
Methylcyclohexane	0.4043 0.5252	0.4639 0.5227	0.5146	0.5568	0.5449	Ave		0.5046				10.5		15.0			
1,4-Dioxane	++++ 0.0010	0.0006 0.0010	0.0008	0.0010	0.0010	Lin2	-0.009	0.0010							0.9990		0.9900
Dibromomethane	0.0887 0.1048	0.0953 0.1104	0.0993	0.1054	0.1064	Ave		0.1015				7.4		15.0			
Dichlorobromomethane	++++ 0.3264	0.2542 0.3487	0.2707	0.3097	0.3199	Ave		0.3049				11.7		15.0			
2-Chloroethyl vinyl ether	++++ 0.0713	++++ 0.0760	0.0412	0.0513	0.0601	Lin2	-0.067	0.0713							0.9910		0.9900
cis-1,3-Dichloropropene	0.9962 1.7538	1.1429 1.8674	1.3063	1.5848	1.7252	Lin1	-0.456	1.8197							0.9980		0.9900
4-Methyl-2-pentanone (MIBK)	0.0334 0.0635	0.0407 0.0646	0.0494	0.0588	0.0631	Lin1	-0.059	0.0643							0.9990		0.9900
Toluene	1.0992 1.4950	1.3952 1.4449	1.4973	1.5962	1.5589	Ave		1.4410				11.4		30.0			
Ethyl methacrylate	++++ 0.7490	0.4380 0.7830	0.5139	0.6346	0.7220	Lin2	-0.345	0.7464							0.9950		0.9900
trans-1,3-Dichloropropene	++++ 0.2772	0.1844 0.2922	0.2068	0.2512	0.2622	Lin2	-0.104	0.2778							0.9970		0.9900
1,1,2-Trichloroethane	0.1172 0.1497	0.1364 0.1557	0.1401	0.1502	0.1509	Ave		0.1429				9.2		15.0			
Methyl n-butyl ketone (MNBK)	0.0880 0.1926	0.1193 0.1952	0.1415	0.1741	0.1944	Lin1	-0.199	0.1946							0.9990		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichloropropane	1.0911 1.2688	1.1460 1.3142	1.2381	1.3235	1.3288	Ave		1.2444				7.5		15.0			
Tetrachloroethene	1.2650 1.4405	1.3305 1.5836	1.4058	1.4579	1.4530	Ave		1.4195				7.2		15.0			
Chlorodibromomethane	++++ 0.8222	0.5701 0.8971	0.6110	0.7306	0.7788	Lin2	-0.298	0.8268							0.9940		0.9900
1,2-Dibromoethane	++++ 0.6176	0.4982 0.6592	0.5253	0.5884	0.6143	Ave		0.5838				10.4		15.0			
1-Chlorohexane	1.1886 2.5912	1.6683 2.7093	2.1117	2.5116	2.5323	Lin2	-0.439	2.5128							0.9910		0.9900
Chlorobenzene	4.1917 4.2073	4.2947 4.2963	4.2616	4.4294	4.3525	Ave		4.2905			0.3000	1.9		15.0			
1,1,1,2-Tetrachloroethane	0.8992 1.2477	0.9786 1.2754	1.0494	1.2012	1.2562	Ave		1.1297				13.5		15.0			
Ethylbenzene	2.1143 2.7102	2.4327 2.6551	2.6049	2.7842	2.7912	Ave		2.5847				9.3		30.0			
m-Xylene & p-Xylene	2.3209 3.2692	2.8039 3.3565	3.0686	3.3102	3.3325	Ave		3.0660				12.5		15.0			
o-Xylene	1.7608 2.8365	2.3557 2.6440	2.7391	3.0520	3.0838	Lin2	-0.353	2.9002							0.9950		0.9900
Styrene	++++ 4.3303	3.0374 4.0023	3.6889	4.3873	4.5095	Ave		3.9926				13.9		15.0			
Bromoform	++++ 0.3534	0.2158 ++++	0.2472	0.2911	0.3165	Lin2	-0.129	0.3321			0.1000				0.9950		0.9900
Isopropylbenzene	3.1743 5.6591	4.5272 5.2801	5.2393	5.7474	5.7149	Lin2	-0.752	5.6055							0.9980		0.9900
Cyclohexanone	++++ 0.0119	0.0067 0.0125	0.0087	0.0100	0.0117	Lin2	-0.228	0.0120							0.9970		0.9900
1,1,2,2-Tetrachloroethane	0.4571 0.4654	0.4365 0.4831	0.4575	0.4655	0.4741	Ave		0.4627			0.3000	3.2		15.0			
trans-1,4-Dichloro-2-butene	++++ 0.1036	0.0766 0.1095	0.0801	0.0913	0.0951	Ave		0.0927				13.9		15.0			
1,2,3-Trichloropropane	++++ 0.1286	0.1142 0.1328	0.1174	0.1293	0.1268	Ave		0.1248				5.9		15.0			
Bromobenzene	0.7449 1.0292	0.8763 1.0580	0.9487	1.0076	0.9967	Ave		0.9516				11.4		15.0			
N-Propylbenzene	++++ 1.6861	1.3842 1.6843	1.5750	1.6900	1.6290	Ave		1.6081				7.4		15.0			
1,3,5-Trimethylbenzene	2.4905 4.5274	3.9286 4.1502	4.4966	4.7929	4.6713	Lin2	-0.629	4.6167							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	0.9021 1.2307	1.1744 1.1451	1.2557	1.3208	1.2758	Ave		1.1864				11.7		15.0			
4-Chlorotoluene	0.8843 1.2883	1.1311 1.3386	1.2030	1.2805	1.2603	Ave		1.1980				12.8		15.0			
tert-Butylbenzene	2.5005 4.7088	3.7130 4.6889	4.2931	4.6600	4.6251	Lin2	-0.675	4.6699							0.9990		0.9900
1,2,4-Trimethylbenzene	2.4967 4.6255	4.0895 4.4540	4.5236	4.7607	4.6323	Lin2	-0.652	4.7086							0.9990		0.9900
sec-Butylbenzene	0.7215 1.3327	1.0700 1.4014	1.2018	1.3151	1.2710	Lin2	-0.189	1.3277							0.9980		0.9900
4-Isopropyltoluene	2.7731 5.2702	4.3870 4.9922	5.0628	5.4165	5.2180	Lin2	-0.758	5.2926							0.9990		0.9900
1,3-Dichlorobenzene	1.9539 2.2045	2.1382 2.2964	2.2164	2.2469	2.1898	Ave		2.1780				5.1		15.0			
1,4-Dichlorobenzene	2.1344 2.1250	2.1229 2.2071	2.1460	2.1796	2.1214	Ave		2.1481				1.5		15.0			
n-Butylbenzene	3.0909 5.0763	4.2193 4.8859	4.9841	5.2586	5.0115	Lin2	-0.614	5.1015							0.9980		0.9900
1,2-Dichlorobenzene	1.4507 1.7257	1.6299 1.8071	1.6848	1.7413	1.7268	Ave		1.6809				6.8		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0535	0.0274 ++++	0.0396	0.0479	0.0498	Lin2	-0.026	0.0533							1.0000		0.9900
1,2,4-Trichlorobenzene	0.6910 1.0987	0.7775 1.1606	0.8849	1.0070	1.0483	Lin2	-0.123	1.0434							0.9900		0.9900
Hexachlorobutadiene	0.7721 0.8719	0.8107 ++++	0.8436	0.8443	0.8071	Ave		0.8249				4.3		15.0			
Naphthalene	++++ 1.4380	0.7084 1.4787	0.8700	1.1822	1.3580	Lin2	-0.795	1.4176							0.9940		0.9900
1,2,3-Trichlorobenzene	0.6170 0.8298	0.6525 0.8599	0.7739	0.8190	0.8265	Ave		0.7684				12.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-419367/16	R2077.D
Level 2	STD1 280-419367/15	R2076.D
Level 3	STD2 280-419367/14	R2075.D
Level 4	STD5 280-419367/13	R2074.D
Level 5	STD10 280-419367/12	R2073.D
Level 6	STD30 280-419367/11	R2072.D
Level 7	STD60 280-419367/10	R2071.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	10741 1543143	42495 3159633	93553	258088	526276	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	5699 764337	24527 1504009	50363	134804	268496	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	7460 898508	29617 1769769	63084	159984	317711	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	6447 614002	24226 1044049	49480	121835	235177	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	5265 510889	18108 943230	37916	94111	185584	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	15056 1600393	53982 3113969	112779	283793	561950	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	17436 1759522	60934 3636029	124242	310161	608943	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	2555 307963	9278 591434	19587	52243	102359	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	4117 531090	15620 +++++	32684	83634	172069	3.00 300	10.00 +++++	20.0	50.0	100.0
Acetone	FB	Lin2	5843 262099	11563 500608	20174	47825	93880	1.20 120	4.00 240	8.00	20.0	40.0
Freon 113	FB	Ave	10316 1162961	35921 2358478	74181	195163	382666	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	11811 1409879	42244 2764653	87411	235211	466812	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	15952 2051002	58939 3994982	122840	339357	685978	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	+++++ 375275	12434 717368	23978	64814	128715	+++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	13660 1589079	44040 2880977	103039	277861	556403	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	43952 5537238	161033 10350347	343879	950860	1895261	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Lin2	1107 243427	5795 463903	13895	37483	78525	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	16065 1157493	42756 2241217	80648	206805	404384	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	8513 1129414	33186 2185438	70504	194231	389075	3.00 300	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	10584 1589097	40036 3054039	87878	255427	526016	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	12357 1487610	45299 2916861	93839	252733	504801	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	14617 2241377	60860 4285311	137609	388809	761139	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Lin2	7502 1385719	32889 2681817	76062	213717	458608	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	19832 2240992	72075 4312881	148037	392081	774359	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Butanone (MEK)	FB	Ave	++++ 405436	12866 808600	27064	65042	135369	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 477640	10819 910429	24191	69898	154092	++++ 900	30.0 1800	60.0	150	300
cis-1,2-Dichloroethene	FB	Ave	11371 1443606	42644 2804013	89028	243910	486891	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2,2-Dichloropropane	FB	Ave	13644 1899201	50379 3851504	109292	291971	602451	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	3389 445562	13020 880166	28094	73481	150341	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	17820 2070320	64521 4035678	132327	353649	703547	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 136823	3211 264007	7149	20487	43008	++++ 60.0	2.00 120	4.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Ave	++++ 173849	4273 324200	10381	27645	57417	++++ 750	25.0 1500	50.0	125	250
1,1,1-Trichloroethane	FB	Ave	15790 2125878	58262 4301782	125975	341047	688168	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Lin2	15226 2477624	66035 4577465	156896	431844	847522	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	14008 2033877	61229 3884745	132754	352753	690247	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	13825 1939827	52021 3980374	112277	305383	621287	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	7937 924586	28658 1825022	58990	157205	313277	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	45424 5456212	174207 10208752	360069	961659	1876056	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Lin2	10609 1834421	49445 3372923	114912	323713	630208	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	11650 1453477	41809 2907700	86681	235287	469604	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	++++ 704815	16059 1360283	35641	105882	219698	++++ 120	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	9350 1080024	33968 2000983	68888	186923	368280	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	14441 2022075	58014 3792750	129362	354266	688345	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	++++ 76288	1477 151044	3951	12714	25088	++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	3167 403539	11920 800841	24968	67081	134466	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	++++ 1256747	31790 2530533	68041	197025	404134	++++ 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Lin2	++++ 274589	++++ 551800	10350	32615	75884	++++ 30.0	++++ 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Lin1	7285 1469018	30068 2915556	69534	215920	457244	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Lin1	4768 978467	20349 1875727	49653	149665	318988	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	39264 5755509	174463 10484980	376378	1015571	1969485	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin2	++++ 627410	11524 1222406	27354	86460	191355	++++ 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin2	++++ 1067286	23053 2120136	51984	159850	331215	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	4185 576448	17055 1129994	35227	95580	190669	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Lin1	2574 645356	12556 1218827	30122	94900	206058	1.20 120	4.00 240	8.00	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	7979 1062803	30150 2051864	65903	180324	352194	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	9251 1206569	35002 2472492	74831	198634	385095	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin2	++++ 688702	14998 1400614	32524	99540	206419	++++ 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	++++ 517289	13107 1029175	27962	80165	162814	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Lin2	8692 2170428	43891 4229898	112406	342188	671150	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	30654 3524159	112984 6707717	226847	603474	1153583	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	6576 1045070	25744 1991320	55858	163655	332948	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	15462 2270119	64000 4145318	138662	379335	739774	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	16973 2738377	73766 5240488	163345	450993	883235	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Lin2	12877 2375951	61974 4128084	145805	415811	817329	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	++++ 3627156	79909 6248654	196362	597748	1195199	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin2	++++ 296051	5678 ++++	13160	39663	83885	++++ 30.0	1.00 ++++	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Lin2	32775 6810215	166854 12097650	395748	1133324	2241336	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin2	++++ 398438	7034 781809	18490	54480	124202	++++ 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	4720 560023	16089 1106812	34554	91793	185952	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	++++ 124623	2824 250909	6054	17994	37279	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	++++ 154771	4208 304167	8870	25489	49739	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	7691 1238527	32296 2424097	71657	198695	390888	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	++++ 2029099	51016 3859092	118968	333240	638883	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Lin2	25714 5448376	144794 9508755	339649	945101	1832018	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	9314 1481074	43283 2623548	94846	260454	500338	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	9130 1550363	41686 3067070	90870	252503	494268	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Lin2	25818 5666667	136846 10743186	324279	918893	1813909	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Lin2	25778 5566442	150724 10204836	341691	938750	1816736	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 00:33 Calibration End Date: 06/21/2018 02:28 Calibration ID: 32769

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Lin2	7449 1603798	39435 3210954	90777	259328	498479	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Lin2	28632 6342182	161686 11437957	382416	1068066	2046428	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	20174 2652939	78807 5261405	167415	443071	858813	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	22038 2557254	78242 5056938	162099	429796	831987	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Lin2	31914 6108878	155506 11194405	376470	1036932	1965437	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14979 2076739	60071 4140343	127264	343359	677249	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin2	++++ 64415	1009 ++++	2989	9451	19525	++++ 30.0	1.00 ++++	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Lin2	7135 1322220	28654 2659229	66844	198570	411140	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	7972 1049267	29879 ++++	63722	166480	316535	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin2	++++ 1730554	26107 3387881	65717	233124	532599	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	6371 998585	24048 1970088	58458	161499	324139	0.300 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-419367/18	R2085.D
Level 2	STD 280-419367/19	R2086.D
Level 3	STD 280-419367/20	R2087.D
Level 4	ICIS 280-419367/21	R2088.D
Level 5	STD 280-419367/22	R2089.D
Level 6	STD 280-419367/23	R2090.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorotrifluoroethene	0.0548 0.1159	0.0551	0.1092	0.1088	0.1082	Lin1	-0.076	0.1153							0.9980		0.9900
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.1607 0.2014	0.1562	0.2304	0.2168	0.1995	Lin1	-0.033	0.2042							0.9970		0.9900
2-Chloro-1,1,1-Trifluoroethane	0.3094 0.2502	0.2828	0.3425	0.3218	0.2754	Ave		0.2970				11.4	15.0				
Ethylene oxide	0.0020 0.0017	0.0020	0.0022	0.0021	0.0018	Ave		0.0020				8.6	15.0				
1,2-Dichloro-1,1,2-trifluoroethane	0.2803 0.2401	0.2572	0.3026	0.2828	0.2546	Ave		0.2696				8.5	15.0				
2,2-Dichloro-1,1,1-trifluoroethane	0.3652 0.3109	0.3298	0.3913	0.3690	0.3317	Ave		0.3496				8.6	15.0				
2-Propanol	0.9724 1.0044	0.9419	1.0357	1.0464	1.0111	Ave		1.0020				3.9	15.0				
Acetonitrile	0.0083 0.0069	0.0077	0.0081	0.0079	0.0072	Ave		0.0077				7.2	15.0				
Di-isopropyl ether (DIPE)	0.1334 0.2066	0.1429	0.1847	0.1950	0.2076	Lin2	-0.080	0.2030							0.9960		0.9900
Chloroprene	0.3157 0.4419	0.3721	0.4863	0.4766	0.4693	Lin2	-0.165	0.4777							0.9950		0.9900
Tert-butyl ethyl ether	0.3301 0.4734	0.3644	0.4504	0.4590	0.4725	Ave		0.4250				14.5	15.0				
Ethyl acetate	0.0418 0.0397	0.0379	0.0460	0.0408	0.0402	Ave		0.0411				6.7	15.0				
Propionitrile	0.0087 0.0093	0.0089	0.0103	0.0099	0.0096	Ave		0.0094				6.2	15.0				
Methacrylonitrile	0.0312 0.0328	0.0332	0.0405	0.0395	0.0363	Ave		0.0356				10.7	15.0				
Tert-amyl methyl ether	0.2393 0.3794	0.2700	0.3525	0.3638	0.3783	Lin2	-0.152	0.3775							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
n-Butanol	0.4409 0.5326	0.4868	0.5877	0.5473	0.5386	Ave		0.5223				9.8		15.0			
Methyl methacrylate	++++ 0.0277	0.0141	0.0197	0.0216	0.0263	Lin2	-0.052	0.0263							0.9940		0.9900
2-Nitropropane	0.0045 0.0091	0.0052	0.0069	0.0071	0.0081	Lin1	-0.013	0.0088							0.9950		0.9900
cis-1,4-Dichloro-2-butene	0.0699 ++++	0.0748	0.0939	0.0933	0.1091	Lin2	-0.072	0.1014							0.9920		0.9900
1,2,3-Trimethylbenzene	3.5276 3.8981	4.0163	4.8470	4.5892	4.5190	Ave		4.2329				11.8		15.0			
1,3,5-Trichlorobenzene	1.2713 1.6083	1.4040	1.6205	1.6260	1.7463	Ave		1.5461				11.3		15.0			
Dibromofluoromethane (Surr)	0.2668 0.2597	0.2321	0.2953	0.2833	0.2688	Lin1	0.0081	0.2652							0.9980		0.9900
1,2-Dichloroethane-d4 (Surr)	0.2054 0.1815	0.1759	0.2116	0.2012	0.1883	Lin1	0.0287	0.1851							0.9980		0.9900
Toluene-d8 (Surr)	4.3371 ++++	4.0960	5.6966	5.8944	5.7326	Lin1	-1.958	5.8693							0.9980		0.9900
4-Bromofluorobenzene (Surr)	1.0256 1.2918	0.9626	1.4151	1.4248	1.4159	Lin1	-0.315	1.3532							0.9960		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-419367/18	R2085.D
Level 2	STD 280-419367/19	R2086.D
Level 3	STD 280-419367/20	R2087.D
Level 4	ICIS 280-419367/21	R2088.D
Level 5	STD 280-419367/22	R2089.D
Level 6	STD 280-419367/23	R2090.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Chlorotrifluoroethene	FB	Lin1	6254 831234	12829	60177	119734	377509	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	FB	Lin1	18332 1444152	36369	126916	238564	696007	1.00 60.0	2.00	5.00	10.0	30.0
2-Chloro-1,1,1-Trifluoroethane	FB	Ave	35309 1794037	65839	188651	354119	960762	1.00 60.0	2.00	5.00	10.0	30.0
Ethylene oxide	FB	Ave	23240 1240585	47600	120287	225927	631491	100 6000	200	500	1000	3000
1,2-Dichloro-1,1,2-trifluoroethane	FB	Ave	31980 1721624	59888	166705	311175	888155	1.00 60.0	2.00	5.00	10.0	30.0
2,2-Dichloro-1,1,1-trifluoroethane	FB	Ave	41675 2229671	76790	215526	406061	1157224	1.00 60.0	2.00	5.00	10.0	30.0
2-Propanol	TBAd 9	Ave	3962 260182	7764	19591	38440	124014	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	9518 495160	17974	44642	86458	249463	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Lin2	15226 1481821	33263	101735	214553	724291	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Lin2	36020 3168965	86652	267863	524485	1637472	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	37667 3394867	84846	248110	505125	1648387	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	9537 569867	17642	50649	89880	280649	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	9924 665629	20821	56535	108980	333435	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	35547 2353826	77242	223034	434718	1266522	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Lin2	27309 2721221	62874	194181	400390	1319709	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Ave	4491 344929	10032	27792	50265	165155	25.0 1500	50.0	125	250	750



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111005-1 Analy Batch No.: 419367

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/21/2018 07:34 Calibration End Date: 06/21/2018 09:10 Calibration ID: 32770

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Methyl methacrylate	FB	Lin2	+++++ 397295	6564	21662	47646	183319	+++++ 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Lin1	1027 130198	2434	7614	15710	56728	2.00 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Lin2	4035 +++++	8768	26194	54995	209934	2.00 +++++	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	101774 8003978	235268	676379	1352770	4348339	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	36677 3302266	82242	226138	479310	1680402	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Lin1	30441 1862543	54043	162669	311758	937929	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin1	23438 1301535	40949	116556	221441	656841	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Lin1	103966 +++++	204285	680701	1393684	4296467	1.00 +++++	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Lin1	29588 2652392	56390	197477	419988	1362411	1.00 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-408278/24 Calibration Date: 03/19/2018 12:01  
 Instrument ID: VMS\_MS9 Calib Start Date: 03/19/2018 09:57  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 03/19/2018 11:40  
 Lab File ID: MS9\_7355.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Ave	0.0057	0.0059		1030	1000	3.3	55.0
Ethanol	Lin2		0.1200		580	600	-3.4	55.0
Propene oxide	Ave	0.0184	0.0202		1100	1000	9.9	
2-Propanol	Lin2		0.8736		107	100	7.1	55.0
Acetonitrile	Ave	0.0097	0.0105		108	100	8.1	55.0
Di-isopropyl ether (DIPE)	Ave	0.1998	0.2186		10.9	10.0	9.4	35.0
Chloroprene	Ave	0.5871	0.6273		10.7	10.0	6.9	35.0
Tert-butyl ethyl ether	Ave	0.6716	0.7384		11.0	10.0	9.9	35.0
Ethyl acetate	Ave	0.0742	0.0896		24.2	20.0	20.9	55.0
Propionitrile	Ave	0.0109	0.0120		110	100	9.9	55.0
Methacrylonitrile	Ave	0.0597	0.0649		109	100	8.6	55.0
Tert-amyl methyl ether	Ave	0.5343	0.5741		10.7	10.0	7.5	35.0
n-Butanol	Lin2		0.3323		256	250	2.3	55.0
Methyl methacrylate	Ave	0.0269	0.0294		21.8	20.0	9.2	35.0
2-Nitropropane	Lin2		0.0233		23.7	20.0	18.5	55.0
Tetrahydrothiophene	Ave	0.0828	0.0990		23.9	20.0	19.6	55.0
cis-1,4-Dichloro-2-butene	Ave	0.1136	0.1170		20.6	20.0	2.9	55.0
1,2,3-Trimethylbenzene	Ave	3.319	3.516		10.6	10.0	6.0	35.0
1,3,5-Trichlorobenzene	Ave	1.387	1.406		10.1	10.0	1.4	50.0
Dibromofluoromethane (Surr)	Ave	0.3100	0.2993		9.66	10.0	-3.4	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2636	0.2643		10.0	10.0	0.3	35.0
Toluene-d8 (Surr)	Ave	4.910	4.833		9.84	10.0	-1.6	35.0
4-Bromofluorobenzene (Surr)	Ave	1.092	1.066		9.76	10.0	-2.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-416844/17 Calibration Date: 05/31/2018 02:52

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_0695.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4203	0.3819		9.08	10.0	-9.2	55.0
Chloromethane	Ave	0.3951	0.3539	0.1000	8.96	10.0	-10.4	35.0
Vinyl chloride	Ave	0.4152	0.3773		9.09	10.0	-9.1	35.0
Bromomethane	Ave	0.2971	0.2719		9.15	10.0	-8.5	35.0
Chloroethane	Ave	0.2463	0.2215		8.99	10.0	-10.1	35.0
Dichlorofluoromethane	Ave	0.5988	0.5742		9.59	10.0	-4.1	55.0
Trichlorofluoromethane	Ave	0.5798	0.5371		9.26	10.0	-7.4	50.0
Ethyl ether	Ave	0.1332	0.1377		10.3	10.0	3.4	35.0
Acrolein	Ave	0.0122	0.0110		90.1	100	-9.9	55.0
Freon 113	Ave	0.2942	0.2789		9.48	10.0	-5.2	55.0
1,1-Dichloroethene	Ave	0.3169	0.2933		9.26	10.0	-7.4	35.0
Acetone	Lin2		0.0277		43.7	40.0	9.4	55.0
Iodomethane	Ave	0.5159	0.4987		9.67	10.0	-3.3	35.0
Methyl acetate	Ave	0.0645	0.0591		45.8	50.0	-8.4	55.0
Allyl chloride	Ave	0.5441	0.5063		9.30	10.0	-7.0	35.0
Carbon disulfide	Ave	1.198	1.165		9.73	10.0	-2.7	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0097	0.0093		95.7	100	-4.3	55.0
Methylene Chloride	Ave	0.2700	0.2489		9.22	10.0	-7.8	35.0
Methyl tert-butyl ether	Lin2		0.4111		9.84	10.0	-1.6	35.0
trans-1,2-Dichloroethene	Ave	0.3332	0.3161		9.49	10.0	-5.1	35.0
Acrylonitrile	Ave	0.0311	0.0295		94.8	100	-5.2	55.0
Hexane	Ave	2.103	2.048		9.74	10.0	-2.6	35.0
Vinyl acetate	Ave	0.2334	0.2292		19.6	20.0	-1.8	55.0
1,1-Dichloroethane	Ave	0.5372	0.5046	0.1000	9.39	10.0	-6.1	35.0
Methyl ethyl ketone (MEK)	Ave	0.0463	0.0454		39.2	40.0	-1.9	55.0
sec-Butyl Alcohol	Ave	0.8939	0.8773		294	300	-1.9	
2,2-Dichloropropane	Ave	0.5307	0.4839		9.12	10.0	-8.8	35.0
cis-1,2-Dichloroethene	Ave	0.3235	0.2979		9.21	10.0	-7.9	35.0
Chloroform	Ave	0.4891	0.4695		9.60	10.0	-4.0	35.0
Tetrahydrofuran	Ave	0.0266	0.0265		19.9	20.0	-0.3	55.0
Chlorobromomethane	Ave	0.1156	0.1117		9.66	10.0	-3.4	35.0
1,1,1-Trichloroethane	Ave	0.5304	0.5069		9.56	10.0	-4.4	35.0
Isobutyl alcohol	Ave	0.8898	0.8605		242	250	-3.3	55.0
Cyclohexane	Ave	0.5988	0.5799		9.68	10.0	-3.2	35.0
1,1-Dichloropropene	Ave	0.4531	0.4387		9.68	10.0	-3.2	35.0
Carbon tetrachloride	Ave	0.4898	0.4579		9.35	10.0	-6.5	35.0
n-Heptane	Ave	0.5660	0.5460		9.65	10.0	-3.5	50.0
Benzene	Ave	1.087	1.023		9.41	10.0	-5.9	35.0
1,2-Dichloroethane	Ave	0.2597	0.2464		9.49	10.0	-5.1	35.0
Trichloroethene	Ave	0.3384	0.3114		9.20	10.0	-8.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-416844/17 Calibration Date: 05/31/2018 02:52

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_0695.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0609	0.0598		39.3	40.0	-1.8	55.0
Methylcyclohexane	Ave	0.4969	0.4772		9.60	10.0	-4.0	35.0
1,2-Dichloropropane	Ave	0.2597	0.2447		9.42	10.0	-5.8	35.0
1,4-Dioxane	Ave	0.0011	0.0010		185	200	-7.7	55.0
Dibromomethane	Ave	0.1095	0.1026		9.37	10.0	-6.3	35.0
Dichlorobromomethane	Ave	0.3190	0.3015		9.45	10.0	-5.5	35.0
2-Chloroethyl vinyl ether	Ave	0.0747	0.0697		9.32	10.0	-6.8	55.0
cis-1,3-Dichloropropene	Ave	1.419	1.386		9.77	10.0	-2.3	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0877	0.0857		39.1	40.0	-2.3	55.0
Toluene	Ave	1.164	1.061		9.11	10.0	-8.9	35.0
Ethyl methacrylate	Ave	0.6863	0.6418		9.35	10.0	-6.5	35.0
trans-1,3-Dichloropropene	Ave	0.2756	0.2586		9.38	10.0	-6.2	35.0
1,1,2-Trichloroethane	Ave	0.1476	0.1380		9.35	10.0	-6.5	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2347	0.2438		41.5	40.0	3.9	55.0
Tetrachloroethene	Ave	1.223	1.133		9.26	10.0	-7.4	35.0
1,3-Dichloropropane	Ave	0.9876	0.9313		9.43	10.0	-5.7	35.0
Chlorodibromomethane	Ave	0.7875	0.7761		9.85	10.0	-1.5	35.0
1,2-Dibromoethane	Ave	0.5682	0.5451		9.59	10.0	-4.1	35.0
1-Chlorohexane	Ave	1.937	1.760		9.09	10.0	-9.1	35.0
Chlorobenzene	Ave	3.002	2.743	0.3000	9.14	10.0	-8.6	35.0
Ethylbenzene	Ave	1.933	1.776		9.19	10.0	-8.1	35.0
1,1,1,2-Tetrachloroethane	Ave	1.064	1.033		9.70	10.0	-3.0	35.0
m-Xylene & p-Xylene	Ave	4.355	4.030		9.25	10.0	-7.5	35.0
o-Xylene	Ave	2.124	1.961		9.24	10.0	-7.6	35.0
Styrene	Ave	3.187	2.928		9.19	10.0	-8.1	35.0
Bromoform	Ave	0.4338	0.4247	0.1000	9.79	10.0	-2.1	35.0
Isopropylbenzene	Ave	3.656	3.295		9.01	10.0	-9.9	35.0
Cyclohexanone	Ave	0.0128	0.0125		391	400	-2.3	35.0
1,1,2,2-Tetrachloroethane	Ave	0.3891	0.3566	0.3000	9.16	10.0	-8.4	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1436	0.1347		9.38	10.0	-6.2	55.0
N-Propylbenzene	Ave	1.142	1.018		8.91	10.0	-10.9	35.0
1,2,3-Trichloropropane	Ave	0.1123	0.1120		9.98	10.0	-0.2	35.0
Bromobenzene	Ave	0.8386	0.7511		8.96	10.0	-10.4	35.0
1,3,5-Trimethylbenzene	Ave	2.996	2.710		9.05	10.0	-9.5	35.0
2-Chlorotoluene	Ave	0.9483	0.8362		8.82	10.0	-11.8	35.0
4-Chlorotoluene	Ave	0.9348	0.8427		9.01	10.0	-9.9	35.0
tert-Butylbenzene	Ave	2.735	2.459		8.99	10.0	-10.1	35.0
1,2,4-Trimethylbenzene	Ave	3.017	2.689		8.92	10.0	-10.8	35.0
sec-Butylbenzene	Ave	0.9388	0.8234		8.77	10.0	-12.3	35.0
4-Isopropyltoluene	Ave	3.573	3.150		8.82	10.0	-11.8	35.0
1,3-Dichlorobenzene	Ave	1.666	1.481		8.89	10.0	-11.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-416844/17 Calibration Date: 05/31/2018 02:52  
 Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18  
 Lab File ID: MS9\_0695.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.626	1.444		8.88	10.0	-11.2	35.0
n-Butylbenzene	Ave	3.458	3.053		8.83	10.0	-11.7	35.0
1,2-Dichlorobenzene	Ave	1.372	1.238		9.03	10.0	-9.7	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0812	0.0767		9.45	10.0	-5.5	55.0
1,2,4-Trichlorobenzene	Ave	1.078	0.9518		8.83	10.0	-11.7	35.0
Hexachlorobutadiene	Ave	0.9090	0.7799		8.58	10.0	-14.2	35.0
Naphthalene	Ave	1.281	1.149		8.97	10.0	-10.3	35.0
1,2,3-Trichlorobenzene	Ave	0.8575	0.7728		9.01	10.0	-9.9	35.0
Dibromofluoromethane (Surr)	Lin2		0.2500		10.3	10.0	3.3	35.0
1,2-Dichloroethane-d4 (Surr)	Lin2		0.2208		11.3	10.0	12.9	35.0
Toluene-d8 (Surr)	Lin2		3.712		10.2	10.0	1.8	35.0
4-Bromofluorobenzene (Surr)	Lin2		0.8676		9.95	10.0	-0.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-418481/15 Calibration Date: 06/13/2018 23:07  
Instrument ID: VMS\_MS9 Calib Start Date: 06/13/2018 21:22  
GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 06/13/2018 22:46  
Lab File ID: MS9\_1301.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Lin1		0.2690		9.48	10.0	-5.2	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2398		9.79	10.0	-2.1	35.0
Toluene-d8 (Surr)	Lin1		3.717		9.81	10.0	-1.9	35.0
4-Bromofluorobenzene (Surr)	Lin1		0.8783		9.61	10.0	-3.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420342/2 Calibration Date: 06/28/2018 09:28

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_1990.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4203	0.4446		10.6	10.0	5.8	50.0
Chloromethane	Ave	0.3951	0.3730	0.1000	9.44	10.0	-5.6	35.0
Vinyl chloride	Ave	0.4152	0.3989		9.61	10.0	-3.9	20.0
Bromomethane	Ave	0.2971	0.3286		11.1	10.0	10.6	35.0
Chloroethane	Ave	0.2463	0.2443		9.92	10.0	-0.8	35.0
Dichlorofluoromethane	Ave	0.5988	0.6618		11.1	10.0	10.5	50.0
Trichlorofluoromethane	Ave	0.5798	0.7542		13.0	10.0	30.1	50.0
Ethyl ether	Ave	0.1332	0.1333		10.0	10.0	0.1	35.0
Acrolein	Ave	0.0122	0.0144		118	100	18.3	50.0
Freon 113	Ave	0.2942	0.3700		12.6	10.0	25.8	50.0
1,1-Dichloroethene	Ave	0.3169	0.3508		11.1	10.0	10.7	20.0
Acetone	Lin2		0.0242		37.2	40.0	-7.0	50.0
Iodomethane	Ave	0.5159	0.6289		12.2	10.0	21.9	35.0
Methyl acetate	Ave	0.0645	0.0619		19.2	20.0	-4.0	50.0
Allyl chloride	Ave	0.5441	0.4892		8.99	10.0	-10.1	35.0
Carbon disulfide	Ave	1.198	1.221		10.2	10.0	2.0	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0097	0.0094		96.9	100	-3.1	50.0
Methylene Chloride	Ave	0.2700	0.3003		11.1	10.0	11.2	35.0
Methyl tert-butyl ether	Lin2		0.4700		11.3	10.0	12.6	35.0
trans-1,2-Dichloroethene	Ave	0.3332	0.3677		11.0	10.0	10.3	35.0
Acrylonitrile	Ave	0.0311	0.0282		90.7	100	-9.3	50.0
Hexane	Ave	2.103	1.763		8.38	10.0	-16.2	35.0
Vinyl acetate	Ave	0.2334	0.2069		17.7	20.0	-11.4	50.0
1,1-Dichloroethane	Ave	0.5372	0.5631	0.1000	10.5	10.0	4.8	35.0
Methyl ethyl ketone (MEK)	Ave	0.0463	0.0422		36.4	40.0	-8.9	50.0
sec-Butyl Alcohol	Ave	0.8939	0.7854		264	300	-12.1	50.0
2,2-Dichloropropane	Ave	0.5307	0.6264		11.8	10.0	18.0	35.0
cis-1,2-Dichloroethene	Ave	0.3235	0.3623		11.2	10.0	12.0	35.0
Chloroform	Ave	0.4891	0.5852		12.0	10.0	19.6	20.0
Tetrahydrofuran	Ave	0.0266	0.0261		19.6	20.0	-2.0	50.0
Chlorobromomethane	Ave	0.1156	0.1400		12.1	10.0	21.1	35.0
1,1,1-Trichloroethane	Ave	0.5304	0.6848		12.9	10.0	29.1	35.0
Isobutyl alcohol	Ave	0.8898	0.8271		232	250	-7.0	50.0
Cyclohexane	Ave	0.5988	0.5839		9.75	10.0	-2.5	35.0
1,1-Dichloropropene	Ave	0.4531	0.5050		11.1	10.0	11.5	35.0
Carbon tetrachloride	Ave	0.4898	0.6625		13.5	10.0	35.2*	35.0
n-Heptane	Ave	0.5660	0.5096		9.00	10.0	-10.0	50.0
Benzene	Ave	1.087	1.158		10.7	10.0	6.5	35.0
1,2-Dichloroethane	Ave	0.2597	0.3354		12.9	10.0	29.2	35.0
Trichloroethene	Ave	0.3384	0.4028		11.9	10.0	19.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420342/2 Calibration Date: 06/28/2018 09:28

Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18

Lab File ID: MS9\_1990.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0609	0.0553		36.3	40.0	-9.3	50.0
Methylcyclohexane	Ave	0.4969	0.5180		10.4	10.0	4.2	35.0
1,2-Dichloropropane	Ave	0.2597	0.2599		10.0	10.0	0.1	20.0
1,4-Dioxane	Ave	0.0011	0.0012		214	200	7.2	50.0
Dibromomethane	Ave	0.1095	0.1309		12.0	10.0	19.5	35.0
Dichlorobromomethane	Ave	0.3190	0.3822		12.0	10.0	19.8	35.0
2-Chloroethyl vinyl ether	Ave	0.0747	0.0821		11.0	10.0	9.9	50.0
cis-1,3-Dichloropropene	Ave	1.419	1.351		9.52	10.0	-4.8	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0877	0.0768		35.0	40.0	-12.4	50.0
Toluene	Ave	1.164	1.281		11.0	10.0	10.0	20.0
Ethyl methacrylate	Ave	0.6863	0.5704		8.31	10.0	-16.9	35.0
trans-1,3-Dichloropropene	Ave	0.2756	0.3214		11.7	10.0	16.6	35.0
1,1,2-Trichloroethane	Ave	0.1476	0.1684		11.4	10.0	14.1	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2347	0.1869		31.8	40.0	-20.4	50.0
Tetrachloroethene	Ave	1.223	1.385		11.3	10.0	13.2	35.0
1,3-Dichloropropane	Ave	0.9876	0.9581		9.70	10.0	-3.0	35.0
Chlorodibromomethane	Ave	0.7875	0.8720		11.1	10.0	10.7	35.0
1,2-Dibromoethane	Ave	0.5682	0.5742		10.1	10.0	1.0	35.0
1-Chlorohexane	Ave	1.937	1.833		9.46	10.0	-5.4	35.0
Chlorobenzene	Ave	3.002	3.133	0.3000	10.4	10.0	4.4	35.0
Ethylbenzene	Ave	1.933	2.030		10.5	10.0	5.0	20.0
1,1,1,2-Tetrachloroethane	Ave	1.064	1.220		11.5	10.0	14.6	35.0
m-Xylene & p-Xylene	Ave	4.355	4.486		10.3	10.0	3.0	35.0
o-Xylene	Ave	2.124	2.200		10.4	10.0	3.6	35.0
Styrene	Ave	3.187	3.261		10.2	10.0	2.3	35.0
Bromoform	Ave	0.4338	0.5103	0.1000	11.8	10.0	17.6	35.0
Isopropylbenzene	Ave	3.656	3.305		9.04	10.0	-9.6	35.0
Cyclohexanone	Ave	0.0128	0.0094		293	400	-26.7	50.0
1,1,2,2-Tetrachloroethane	Ave	0.3891	0.3282	0.3000	8.43	10.0	-15.7	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1436	0.1281		8.92	10.0	-10.8	50.0
N-Propylbenzene	Ave	1.142	1.107		9.69	10.0	-3.1	35.0
1,2,3-Trichloropropane	Ave	0.1123	0.1154		10.3	10.0	2.8	35.0
Bromobenzene	Ave	0.8386	0.8482		10.1	10.0	1.1	35.0
1,3,5-Trimethylbenzene	Ave	2.996	2.853		9.52	10.0	-4.8	35.0
2-Chlorotoluene	Ave	0.9483	0.9180		9.68	10.0	-3.2	35.0
4-Chlorotoluene	Ave	0.9348	0.9318		9.97	10.0	-0.3	35.0
tert-Butylbenzene	Ave	2.735	2.620		9.58	10.0	-4.2	35.0
1,2,4-Trimethylbenzene	Ave	3.017	2.883		9.56	10.0	-4.4	35.0
sec-Butylbenzene	Ave	0.9388	0.9322		9.93	10.0	-0.7	35.0
4-Isopropyltoluene	Ave	3.573	3.475		9.72	10.0	-2.8	35.0
1,3-Dichlorobenzene	Ave	1.666	1.691		10.1	10.0	1.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420342/2 Calibration Date: 06/28/2018 09:28  
 Instrument ID: VMS\_MS9 Calib Start Date: 05/30/2018 23:13  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 05/31/2018 01:18  
 Lab File ID: MS9\_1990.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.626	1.637		10.1	10.0	0.7	35.0
n-Butylbenzene	Ave	3.458	3.156		9.13	10.0	-8.7	35.0
1,2-Dichlorobenzene	Ave	1.372	1.402		10.2	10.0	2.2	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0812	0.0764		9.41	10.0	-5.9	50.0
1,2,4-Trichlorobenzene	Ave	1.078	1.123		10.4	10.0	4.1	35.0
Hexachlorobutadiene	Ave	0.9090	1.043		11.5	10.0	14.8	35.0
Naphthalene	Ave	1.281	1.209		9.44	10.0	-5.6	35.0
1,2,3-Trichlorobenzene	Ave	0.8575	0.9135		10.7	10.0	6.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420342/2 Calibration Date: 06/28/2018 09:28  
Instrument ID: VMS\_MS9 Calib Start Date: 06/13/2018 21:22  
GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 06/13/2018 22:46  
Lab File ID: MS9\_1990.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Lin1		0.3290		11.2	9.50	18.1	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2828		11.1	9.50	17.1	35.0
Toluene-d8 (Surr)	Lin1		4.056		10.2	9.50	7.5	35.0
4-Bromofluorobenzene (Surr)	Lin1		0.8881		9.19	9.50	-3.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-419367/17 Calibration Date: 06/21/2018 02:47

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2078.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3816	0.3952		10.4	10.0	3.6	55.0
Chloromethane	Ave	0.1980	0.2024	0.1000	10.2	10.0	2.2	35.0
Vinyl chloride	Ave	0.2396	0.2504		10.5	10.0	4.5	35.0
Bromomethane	Ave	0.1789	0.2038		11.4	10.0	13.9	35.0
Chloroethane	Ave	0.1429	0.1500		10.5	10.0	4.9	35.0
Dichlorofluoromethane	Ave	0.4339	0.4617		10.6	10.0	6.4	55.0
Trichlorofluoromethane	Ave	0.4853	0.4980		10.3	10.0	2.6	50.0
Ethyl ether	Ave	0.0783	0.0738		9.42	10.0	-5.8	35.0
Acrolein	Ave	0.0129	0.0095		73.5	100	-26.5	55.0
Acetone	Lin2		0.0197		44.6	40.0	11.5	55.0
Freon 113	Ave	0.3011	0.2772		9.20	10.0	-8.0	55.0
1,1-Dichloroethene	Ave	0.3575	0.3215		8.99	10.0	-10.1	35.0
Iodomethane	Ave	0.5095	0.4479		8.79	10.0	-12.1	35.0
Methyl acetate	Ave	0.0496	0.0437		44.1	50.0	-11.8	55.0
Allyl chloride	Ave	0.4045	0.3805		9.41	10.0	-5.9	35.0
Carbon disulfide	Ave	1.392	1.227		8.81	10.0	-11.9	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		0.0056		92.1	100	-7.9	55.0
Methylene Chloride	Ave	0.3382	0.2806		8.30	10.0	-17.0	35.0
Acrylonitrile	Ave	0.0285	0.0273		95.8	100	-4.2	55.0
Methyl tert-butyl ether	Ave	0.3739	0.3585		9.59	10.0	-4.1	35.0
trans-1,2-Dichloroethene	Ave	0.3810	0.3650		9.58	10.0	-4.2	35.0
Hexane	Ave	2.578	2.411		9.35	10.0	-6.5	35.0
Vinyl acetate	Lin2		0.1782		20.7	20.0	3.4	55.0
1,1-Dichloroethane	Ave	0.5894	0.5524	0.1000	9.37	10.0	-6.3	35.0
2-Butanone (MEK)	Ave	0.0265	0.0253		38.2	40.0	-4.5	55.0
sec-Butyl Alcohol	Ave	0.9112	0.8903		293	300	-2.3	
cis-1,2-Dichloroethene	Ave	0.3634	0.3499		9.63	10.0	-3.7	35.0
2,2-Dichloropropane	Ave	0.4542	0.4258		9.37	10.0	-6.3	35.0
Chlorobromomethane	Ave	0.1118	0.1063		9.51	10.0	-4.9	35.0
Chloroform	Ave	0.5354	0.5158		9.63	10.0	-3.7	35.0
Tetrahydrofuran	Ave	0.0160	0.0149		18.5	20.0	-7.3	55.0
Isobutyl alcohol	Ave	0.4189	0.4144		247	250	-1.1	55.0
1,1,1-Trichloroethane	Ave	0.5193	0.5078		9.78	10.0	-2.2	35.0
Cyclohexane	Lin2		0.6145		9.51	10.0	-4.9	35.0
1,1-Dichloropropene	Ave	0.5106	0.5162		10.1	10.0	1.1	35.0
Carbon tetrachloride	Ave	0.4677	0.4533		9.69	10.0	-3.1	35.0
1,2-Dichloroethane	Ave	0.2390	0.2234		9.35	10.0	-6.5	35.0
Benzene	Ave	1.417	1.351		9.53	10.0	-4.7	35.0
n-Heptane	Lin2		0.4614		9.61	10.0	-3.9	50.0
Trichloroethene	Ave	0.3607	0.3449		9.56	10.0	-4.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-419367/17 Calibration Date: 06/21/2018 02:47

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2078.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0409	0.0405		39.6	40.0	-1.1	55.0
1,2-Dichloropropane	Ave	0.2784	0.2736		9.83	10.0	-1.7	35.0
Methylcyclohexane	Ave	0.5046	0.4917		9.74	10.0	-2.6	35.0
1,4-Dioxane	Lin2		0.0009		176	200	-12.0	55.0
Dibromomethane	Ave	0.1015	0.0971		9.56	10.0	-4.4	35.0
Dichlorobromomethane	Ave	0.3049	0.2938		9.64	10.0	-3.6	35.0
2-Chloroethyl vinyl ether	Lin2		0.0574		8.99	10.0	-10.1	55.0
cis-1,3-Dichloropropene	Lin1		1.575		8.90	10.0	-11.0	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0624		39.8	40.0	-0.6	55.0
Toluene	Ave	1.441	1.508		10.5	10.0	4.6	35.0
Ethyl methacrylate	Lin2		0.6361		8.98	10.0	-10.2	35.0
trans-1,3-Dichloropropene	Lin2		0.2448		9.19	10.0	-8.1	35.0
1,1,2-Trichloroethane	Ave	0.1429	0.1440		10.1	10.0	0.8	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.1915		40.4	40.0	0.9	55.0
1,3-Dichloropropane	Ave	1.244	1.212		9.74	10.0	-2.6	35.0
Tetrachloroethene	Ave	1.419	1.361		9.59	10.0	-4.1	35.0
Chlorodibromomethane	Lin2		0.7139		8.99	10.0	-10.1	35.0
1,2-Dibromoethane	Ave	0.5838	0.5525		9.46	10.0	-5.4	35.0
1-Chlorohexane	Lin2		2.456		9.95	10.0	-0.5	35.0
Chlorobenzene	Ave	4.290	4.104	0.3000	9.57	10.0	-4.3	35.0
1,1,1,2-Tetrachloroethane	Ave	1.130	1.167		10.3	10.0	3.3	35.0
Ethylbenzene	Ave	2.585	2.622		10.1	10.0	1.4	35.0
m-Xylene & p-Xylene	Ave	3.066	3.124		10.2	10.0	1.9	35.0
o-Xylene	Lin2		2.856		9.97	10.0	-0.3	35.0
Styrene	Ave	3.993	4.161		10.4	10.0	4.2	35.0
Bromoform	Lin2		0.2829	0.1000	8.91	10.0	-10.9	35.0
Isopropylbenzene	Lin2		5.577		10.1	10.0	0.8	35.0
Cyclohexanone	Lin2		0.0111		388	400	-2.9	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4627	0.4427	0.3000	9.57	10.0	-4.3	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0927	0.0902		9.73	10.0	-2.7	55.0
1,2,3-Trichloropropane	Ave	0.1248	0.1216		9.74	10.0	-2.6	35.0
Bromobenzene	Ave	0.9516	0.9543		10.0	10.0	0.3	35.0
N-Propylbenzene	Ave	1.608	1.629		10.1	10.0	1.3	35.0
1,3,5-Trimethylbenzene	Lin2		4.548		9.99	10.0	-0.1	35.0
2-Chlorotoluene	Ave	1.186	1.245		10.5	10.0	4.9	35.0
4-Chlorotoluene	Ave	1.198	1.214		10.1	10.0	1.4	35.0
tert-Butylbenzene	Lin2		4.513		9.81	10.0	-1.9	35.0
1,2,4-Trimethylbenzene	Lin2		4.453		9.59	10.0	-4.1	35.0
sec-Butylbenzene	Lin2		1.282		9.80	10.0	-2.0	35.0
4-Isopropyltoluene	Lin2		5.154		9.88	10.0	-1.2	35.0
1,3-Dichlorobenzene	Ave	2.178	2.100		9.64	10.0	-3.6	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419367/17 Calibration Date: 06/21/2018 02:47  
 Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28  
 Lab File ID: R2078.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	2.148	2.040		9.50	10.0	-5.0	35.0
n-Butylbenzene	Lin2		5.004		9.93	10.0	-0.7	35.0
1,2-Dichlorobenzene	Ave	1.681	1.624		9.66	10.0	-3.4	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0439		8.74	10.0	-12.6	55.0
1,2,4-Trichlorobenzene	Lin2		0.9495		9.22	10.0	-7.8	35.0
Hexachlorobutadiene	Ave	0.8249	0.7968		9.66	10.0	-3.4	35.0
Naphthalene	Lin2		1.122		8.48	10.0	-15.2	35.0
1,2,3-Trichlorobenzene	Ave	0.7684	0.7319		9.52	10.0	-4.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419367/24 Calibration Date: 06/21/2018 09:29  
Instrument ID: VMS\_R1 Calib Start Date: 03/05/2018 07:47  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 03/05/2018 09:22  
Lab File ID: R2091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Propene oxide	Ave	0.0197				1000		
Tetrahydrothiophene	Lin1					20.0	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419367/24 Calibration Date: 06/21/2018 09:29  
Instrument ID: VMS\_R1 Calib Start Date: 05/14/2018 13:05  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 05/14/2018 14:41  
Lab File ID: R2091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.0795				600		



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419367/24 Calibration Date: 06/21/2018 09:29  
 Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 07:34  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 09:10  
 Lab File ID: R2091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlorotrifluoroethene	Lin1		0.1044		9.71	10.0	-2.9	55.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane	Lin1		0.1820		9.07	10.0	-9.3	50.0
2-Chloro-1,1,1-Trifluoroethane	Ave	0.2970	0.2882		9.70	10.0	-3.0	55.0
Ethylene oxide	Ave	0.0020	0.0016		832	1000	-16.8	55.0
1,2-Dichloro-1,1,2-trifluoroethane	Ave	0.2696	0.2655		9.85	10.0	-1.5	55.0
2,2-Dichloro-1,1,1-trifluoroethane	Ave	0.3496	0.3850		11.0	10.0	10.1	55.0
2-Propanol	Ave	1.002	0.8871		88.5	100	-11.5	55.0
Acetonitrile	Ave	0.0077	0.0066		86.1	100	-13.9	55.0
Di-isopropyl ether (DIPE)	Lin2		0.1819		9.36	10.0	-6.4	35.0
Chloroprene	Lin2		0.3972		8.66	10.0	-13.4	35.0
Tert-butyl ethyl ether	Ave	0.4250	0.4102		9.65	10.0	-3.5	35.0
Ethyl acetate	Ave	0.0411	0.0377		18.3	20.0	-8.3	55.0
Propionitrile	Ave	0.0094	0.0085		89.6	100	-10.4	55.0
Methacrylonitrile	Ave	0.0356	0.0331		92.9	100	-7.1	55.0
Tert-amyl methyl ether	Lin2		0.3215		8.92	10.0	-10.8	35.0
n-Butanol	Ave	0.5223	0.4553		218	250	-12.8	55.0
Methyl methacrylate	Lin2		0.0190		16.4	20.0	-17.9	35.0
2-Nitropropane	Lin1		0.0077		19.0	20.0	-5.2	55.0
cis-1,4-Dichloro-2-butene	Lin2		0.0743		15.4	20.0	-23.2	55.0
1,2,3-Trimethylbenzene	Ave	4.233	3.727		8.80	10.0	-12.0	35.0
1,3,5-Trichlorobenzene	Ave	1.546	1.262		8.16	10.0	-18.4	50.0
Dibromofluoromethane (Surr)	Lin1		0.2689		10.1	10.0	1.1	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.1879		10.0	10.0	-0.0	35.0
Toluene-d8 (Surr)	Lin1		5.622		9.91	10.0	-0.9	35.0
4-Bromofluorobenzene (Surr)	Lin1		1.341		10.1	10.0	1.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420464/2 Calibration Date: 06/28/2018 19:08

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2503.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.3816	0.3883		10.2	10.0	1.8	50.0
Chloromethane	Ave	0.1980	0.1483	0.1000	7.49	10.0	-25.1	35.0
Vinyl chloride	Ave	0.2396	0.2083		8.70	10.0	-13.0	20.0
Bromomethane	Ave	0.1789	0.1895		10.6	10.0	5.9	35.0
Chloroethane	Ave	0.1429	0.1287		9.01	10.0	-9.9	35.0
Dichlorofluoromethane	Ave	0.4339	0.4181		9.64	10.0	-3.6	50.0
Trichlorofluoromethane	Ave	0.4853	0.5257		10.8	10.0	8.3	50.0
Ethyl ether	Ave	0.0783	0.1129		14.4	10.0	44.1*	35.0
Acrolein	Ave	0.0129	0.0136		105	100	5.5	50.0
Acetone	Lin2		0.0169		38.2	40.0	-4.5	50.0
1,1-Dichloroethene	Ave	0.3575	0.3165		8.85	10.0	-11.5	20.0
Freon 113	Ave	0.3011	0.2915		9.68	10.0	-3.2	50.0
Iodomethane	Ave	0.5095	0.4316		8.47	10.0	-15.3	35.0
Methyl acetate	Ave	0.0496	0.0439		17.7	20.0	-11.4	50.0
Allyl chloride	Ave	0.4045	0.3642		9.00	10.0	-10.0	35.0
Carbon disulfide	Ave	1.392	1.330		9.56	10.0	-4.4	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		0.0052		85.8	100	-14.2	50.0
Methylene Chloride	Ave	0.3382	0.3040		8.99	10.0	-10.1	35.0
Acrylonitrile	Ave	0.0285	0.0266		93.6	100	-6.4	50.0
Methyl tert-butyl ether	Ave	0.3739	0.3261		8.72	10.0	-12.8	35.0
trans-1,2-Dichloroethene	Ave	0.3810	0.3649		9.58	10.0	-4.2	35.0
Hexane	Ave	2.578	2.527		9.80	10.0	-2.0	35.0
Vinyl acetate	Lin2		0.1540		17.9	20.0	-10.4	50.0
1,1-Dichloroethane	Ave	0.5894	0.5461	0.1000	9.27	10.0	-7.3	35.0
2-Butanone (MEK)	Ave	0.0265	0.0211		31.8	40.0	-20.6	50.0
sec-Butyl Alcohol	Ave	0.9112	0.8925		294	300	-2.1	50.0
cis-1,2-Dichloroethene	Ave	0.3634	0.3417		9.40	10.0	-6.0	35.0
2,2-Dichloropropane	Ave	0.4542	0.4405		9.70	10.0	-3.0	35.0
Chlorobromomethane	Ave	0.1118	0.1062		9.50	10.0	-5.0	35.0
Chloroform	Ave	0.5354	0.5019		9.37	10.0	-6.3	20.0
Tetrahydrofuran	Ave	0.0160	0.0128		16.0	20.0	-20.0	50.0
Isobutyl alcohol	Ave	0.4189	0.4652		278	250	11.0	50.0
1,1,1-Trichloroethane	Ave	0.5193	0.4949		9.53	10.0	-4.7	35.0
Cyclohexane	Lin2		0.6006		9.30	10.0	-7.0	35.0
1,1-Dichloropropene	Ave	0.5106	0.5045		9.88	10.0	-1.2	35.0
Carbon tetrachloride	Ave	0.4677	0.4498		9.62	10.0	-3.8	35.0
1,2-Dichloroethane	Ave	0.2390	0.2206		9.23	10.0	-7.7	35.0
Benzene	Ave	1.417	1.347		9.51	10.0	-4.9	35.0
n-Heptane	Lin2		0.4507		9.39	10.0	-6.1	50.0
Trichloroethene	Ave	0.3607	0.3203		8.88	10.0	-11.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-420464/2 Calibration Date: 06/28/2018 19:08

Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28

Lab File ID: R2503.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0409	0.0372		36.4	40.0	-9.1	50.0
1,2-Dichloropropane	Ave	0.2784	0.2615		9.39	10.0	-6.1	20.0
Methylcyclohexane	Ave	0.5046	0.4958		9.83	10.0	-1.7	35.0
1,4-Dioxane	Lin2		0.0009		177	200	-11.4	50.0
Dibromomethane	Ave	0.1015	0.0971		9.57	10.0	-4.3	35.0
Dichlorobromomethane	Ave	0.3049	0.2828		9.27	10.0	-7.3	35.0
2-Chloroethyl vinyl ether	Lin2		0.0431		6.98	10.0	-30.2	50.0
cis-1,3-Dichloropropene	Lin1		1.428		8.10	10.0	-19.0	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0532		34.0	40.0	-14.9	50.0
Toluene	Ave	1.441	1.474		10.2	10.0	2.3	20.0
Ethyl methacrylate	Lin2		0.5950		8.43	10.0	-15.7	35.0
trans-1,3-Dichloropropene	Lin2		0.2392		8.98	10.0	-10.2	35.0
1,1,2-Trichloroethane	Ave	0.1429	0.1379		9.65	10.0	-3.5	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.1581		33.5	40.0	-16.2	50.0
1,3-Dichloropropane	Ave	1.244	1.263		10.1	10.0	1.5	35.0
Tetrachloroethene	Ave	1.419	1.461		10.3	10.0	2.9	35.0
Chlorodibromomethane	Lin2		0.6942		8.76	10.0	-12.4	35.0
1,2-Dibromoethane	Ave	0.5838	0.5227		8.95	10.0	-10.5	35.0
1-Chlorohexane	Lin2		2.343		9.50	10.0	-5.0	35.0
Chlorobenzene	Ave	4.290	4.264	0.3000	9.94	10.0	-0.6	35.0
1,1,1,2-Tetrachloroethane	Ave	1.130	1.197		10.6	10.0	5.9	35.0
Ethylbenzene	Ave	2.585	2.737		10.6	10.0	5.9	20.0
m-Xylene & p-Xylene	Ave	3.066	3.224		10.5	10.0	5.1	35.0
o-Xylene	Lin2		3.006		10.5	10.0	4.9	35.0
Styrene	Ave	3.993	4.369		10.9	10.0	9.4	35.0
Bromoform	Lin2		0.2850	0.1000	8.97	10.0	-10.3	35.0
Isopropylbenzene	Lin2		5.321		9.63	10.0	-3.7	35.0
Cyclohexanone	Lin2		0.0097		343	400	-14.1	50.0
1,1,2,2-Tetrachloroethane	Ave	0.4627	0.4366	0.3000	9.44	10.0	-5.6	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0927	0.0841		9.08	10.0	-9.2	50.0
1,2,3-Trichloropropane	Ave	0.1248	0.1164		9.32	10.0	-6.8	35.0
Bromobenzene	Ave	0.9516	0.9919		10.4	10.0	4.2	35.0
N-Propylbenzene	Ave	1.608	1.637		10.2	10.0	1.8	35.0
1,3,5-Trimethylbenzene	Lin2		4.648		10.2	10.0	2.0	35.0
2-Chlorotoluene	Ave	1.186	1.300		11.0	10.0	9.6	35.0
4-Chlorotoluene	Ave	1.198	1.237		10.3	10.0	3.3	35.0
tert-Butylbenzene	Lin2		4.509		9.80	10.0	-2.0	35.0
1,2,4-Trimethylbenzene	Lin2		4.628		9.97	10.0	-0.3	35.0
sec-Butylbenzene	Lin2		1.290		9.86	10.0	-1.4	35.0
4-Isopropyltoluene	Lin2		5.329		10.2	10.0	2.1	35.0
1,3-Dichlorobenzene	Ave	2.178	2.222		10.2	10.0	2.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-420464/2 Calibration Date: 06/28/2018 19:08  
 Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 00:33  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 02:28  
 Lab File ID: R2503.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	2.148	2.170		10.1	10.0	1.0	35.0
n-Butylbenzene	Lin2		5.125		10.2	10.0	1.7	35.0
1,2-Dichlorobenzene	Ave	1.681	1.696		10.1	10.0	0.9	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0434		8.64	10.0	-13.6	50.0
1,2,4-Trichlorobenzene	Lin2		0.9523		9.24	10.0	-7.6	35.0
Hexachlorobutadiene	Ave	0.8249	0.8649		10.5	10.0	4.8	35.0
Naphthalene	Lin2		1.052		7.98	10.0	-20.2	35.0
1,2,3-Trichlorobenzene	Ave	0.7684	0.7645		9.95	10.0	-0.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-420464/2 Calibration Date: 06/28/2018 19:08  
Instrument ID: VMS\_R1 Calib Start Date: 06/21/2018 07:34  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/21/2018 09:10  
Lab File ID: R2503.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Lin1		0.2379		10.7	12.0	-10.6	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.1676		10.7	12.0	-10.8	35.0
Toluene-d8 (Surr)	Lin1		5.571		11.7	12.0	-2.3	35.0
4-Bromofluorobenzene (Surr)	Lin1		1.152		10.4	12.0	-12.9	35.0



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420342/6  
 Matrix: Water Lab File ID: MS9\_1993.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/28/2018 10:30  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420342 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.429	J	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	86		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	92		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-420464/6  
 Matrix: Water Lab File ID: R2506.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 06/28/2018 20:12  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 420464 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
56-23-5	Carbon tetrachloride	ND		1.0	0.19
108-90-7	Chlorobenzene	ND		1.0	0.17
67-66-3	Chloroform	ND		1.0	0.16
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	2-Butanone (MEK)	ND		6.0	2.0
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.948	J	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>LCS 280-420342/4</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_1992.D</u>
Analysis Method: <u>8260B</u>	Date Collected: _____
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 10:09</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420342</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.60		1.0	0.16
75-34-3	1,1-Dichloroethane	4.62		1.0	0.22
107-06-2	1,2-Dichloroethane	5.70		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	19.3		6.0	2.0
75-35-4	1,1-Dichloroethene	4.83		1.0	0.23
67-64-1	Acetone	16.2		10	1.9
71-43-2	Benzene	4.74		1.0	0.16
75-00-3	Chloroethane	4.67		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.91		1.0	0.15
100-41-4	Ethylbenzene	4.48		1.0	0.16
75-09-2	Methylene Chloride	5.00		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.39		2.0	0.34
95-47-6	o-Xylene	4.44		1.0	0.19
100-42-5	Styrene	4.20		1.0	0.17
127-18-4	Tetrachloroethene	5.10		1.0	0.20
108-88-3	Toluene	5.00		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.96		1.0	0.15
79-01-6	Trichloroethene	5.34		1.0	0.16
75-01-4	Vinyl chloride	4.33		1.0	0.10
1330-20-7	Xylenes, Total	8.83		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		70-127
460-00-4	4-Bromofluorobenzene (Surr)	89		78-120
1868-53-7	Dibromofluoromethane (Surr)	102		77-120
2037-26-5	Toluene-d8 (Surr)	96		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-420464/4

Matrix: Water Lab File ID: R2508.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 06/28/2018 20:57

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 420464 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.08		1.0	0.16
75-34-3	1,1-Dichloroethane	5.15		1.0	0.22
56-23-5	Carbon tetrachloride	5.13		1.0	0.19
108-90-7	Chlorobenzene	5.26		1.0	0.17
67-66-3	Chloroform	5.10		1.0	0.16
107-06-2	1,2-Dichloroethane	4.98		1.0	0.13
78-93-3	2-Butanone (MEK)	15.5		6.0	2.0
78-93-3	Methyl ethyl ketone (MEK)	15.5		6.0	2.0
75-35-4	1,1-Dichloroethene	4.98		1.0	0.23
67-64-1	Acetone	20.9		10	1.9
71-43-2	Benzene	5.07		1.0	0.16
75-00-3	Chloroethane	4.60		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.90		1.0	0.15
100-41-4	Ethylbenzene	5.37		1.0	0.16
75-09-2	Methylene Chloride	5.40		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.29		2.0	0.34
95-47-6	o-Xylene	5.31		1.0	0.19
100-42-5	Styrene	5.24		1.0	0.17
127-18-4	Tetrachloroethene	5.47		1.0	0.20
108-88-3	Toluene	5.38		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.24		1.0	0.15
79-01-6	Trichloroethene	4.50		1.0	0.16
75-01-4	Vinyl chloride	4.30		1.0	0.10
1330-20-7	Xylenes, Total	10.6		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		70-127
460-00-4	4-Bromofluorobenzene (Surr)	87		78-120
1868-53-7	Dibromofluoromethane (Surr)	88		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-136 MS</u>	Lab Sample ID: <u>280-111005-3 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2517.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 11:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 23:52</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420464</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5420		200	32
75-34-3	1,1-Dichloroethane	2300		200	44
56-23-5	Carbon tetrachloride	1090		200	38
108-90-7	Chlorobenzene	1060		200	34
67-66-3	Chloroform	1040		200	32
107-06-2	1,2-Dichloroethane	1000		200	26
78-93-3	2-Butanone (MEK)	4090		1200	400
78-93-3	Methyl ethyl ketone (MEK)	4090		1200	400
75-35-4	1,1-Dichloroethene	1460		200	46
67-64-1	Acetone	3960		2000	380
71-43-2	Benzene	1030		200	32
75-00-3	Chloroethane	1060		400	82
156-59-2	cis-1,2-Dichloroethene	38700		200	30
100-41-4	Ethylbenzene	1100		200	32
75-09-2	Methylene Chloride	1150		400	64
179601-23-1	m-Xylene & p-Xylene	1080		400	68
95-47-6	o-Xylene	1100		200	38
100-42-5	Styrene	1040		200	34
127-18-4	Tetrachloroethene	2430		200	40
108-88-3	Toluene	1110		200	34
156-60-5	trans-1,2-Dichloroethene	1130		200	30
79-01-6	Trichloroethene	2490		200	32
75-01-4	Vinyl chloride	3220		200	20
1330-20-7	Xylenes, Total	2180		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		70-127
460-00-4	4-Bromofluorobenzene (Surr)	87		78-120
1868-53-7	Dibromofluoromethane (Surr)	89		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-111018-E-5 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2004.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 11:18</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 14:21</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420342</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.69		1.0	0.16
75-34-3	1,1-Dichloroethane	4.72		1.0	0.22
107-06-2	1,2-Dichloroethane	6.12		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	19.4		6.0	2.0
75-35-4	1,1-Dichloroethene	4.79		1.0	0.23
67-64-1	Acetone	20.9		10	1.9
71-43-2	Benzene	4.67		1.0	0.16
75-00-3	Chloroethane	4.38		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	8.19		1.0	0.15
100-41-4	Ethylbenzene	4.26		1.0	0.16
75-09-2	Methylene Chloride	5.20		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.20		2.0	0.34
95-47-6	o-Xylene	4.23		1.0	0.19
100-42-5	Styrene	4.09		1.0	0.17
127-18-4	Tetrachloroethene	4.70		1.0	0.20
108-88-3	Toluene	4.84		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.92		1.0	0.15
79-01-6	Trichloroethene	5.28		1.0	0.16
75-01-4	Vinyl chloride	4.11		1.0	0.10
1330-20-7	Xylenes, Total	8.43		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	117		70-127
460-00-4	4-Bromofluorobenzene (Surr)	88		78-120
1868-53-7	Dibromofluoromethane (Surr)	109		77-120
2037-26-5	Toluene-d8 (Surr)	98		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-136 MSD</u>	Lab Sample ID: <u>280-111005-3 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>R2518.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 11:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/29/2018 00:11</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420464</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5310		200	32
75-34-3	1,1-Dichloroethane	2300		200	44
56-23-5	Carbon tetrachloride	1090		200	38
108-90-7	Chlorobenzene	1080		200	34
67-66-3	Chloroform	1050		200	32
107-06-2	1,2-Dichloroethane	1020		200	26
78-93-3	2-Butanone (MEK)	3330		1200	400
78-93-3	Methyl ethyl ketone (MEK)	3330		1200	400
75-35-4	1,1-Dichloroethene	1490		200	46
67-64-1	Acetone	3850		2000	380
71-43-2	Benzene	1040		200	32
75-00-3	Chloroethane	991		400	82
156-59-2	cis-1,2-Dichloroethene	37600		200	30
100-41-4	Ethylbenzene	1120		200	32
75-09-2	Methylene Chloride	1160		400	64
179601-23-1	m-Xylene & p-Xylene	1090		400	68
95-47-6	o-Xylene	1110		200	38
100-42-5	Styrene	1060		200	34
127-18-4	Tetrachloroethene	2430		200	40
108-88-3	Toluene	1130		200	34
156-60-5	trans-1,2-Dichloroethene	1150		200	30
79-01-6	Trichloroethene	2510		200	32
75-01-4	Vinyl chloride	3080		200	20
1330-20-7	Xylenes, Total	2200		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		70-127
460-00-4	4-Bromofluorobenzene (Surr)	88		78-120
1868-53-7	Dibromofluoromethane (Surr)	90		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-111018-E-5 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2006.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>06/14/2018 11:18</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>06/28/2018 15:03</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>420342</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.02		1.0	0.16
75-34-3	1,1-Dichloroethane	4.40		1.0	0.22
107-06-2	1,2-Dichloroethane	5.74		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	19.1		6.0	2.0
75-35-4	1,1-Dichloroethene	4.09		1.0	0.23
67-64-1	Acetone	19.6		10	1.9
71-43-2	Benzene	4.41		1.0	0.16
75-00-3	Chloroethane	4.22		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	7.71		1.0	0.15
100-41-4	Ethylbenzene	4.06		1.0	0.16
75-09-2	Methylene Chloride	4.96		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	3.99		2.0	0.34
95-47-6	o-Xylene	4.00		1.0	0.19
100-42-5	Styrene	3.84		1.0	0.17
127-18-4	Tetrachloroethene	4.35		1.0	0.20
108-88-3	Toluene	4.59		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.44		1.0	0.15
79-01-6	Trichloroethene	4.90		1.0	0.16
75-01-4	Vinyl chloride	3.76		1.0	0.10
1330-20-7	Xylenes, Total	7.99		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		70-127
460-00-4	4-Bromofluorobenzene (Surr)	82		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	89		80-125



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 03/19/2018 06:37Analysis Batch Number: 408278End Date: 03/19/2018 18:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-408278/1		03/19/2018 06:37	1	MS9_7339.D	RTX-624 0.53 (mm)
STD 280-408278/10 IC		03/19/2018 07:10	1		RTX-624 0.53 (mm)
STD 280-408278/11 IC		03/19/2018 07:30	1		RTX-624 0.53 (mm)
STD 280-408278/12 IC		03/19/2018 07:51	1		RTX-624 0.53 (mm)
STD 280-408278/13 IC		03/19/2018 08:12	1		RTX-624 0.53 (mm)
STD 280-408278/14 IC		03/19/2018 08:33	1		RTX-624 0.53 (mm)
STD 280-408278/15 IC		03/19/2018 08:54	1		RTX-624 0.53 (mm)
STD 280-408278/16 IC		03/19/2018 09:15	1		RTX-624 0.53 (mm)
ICV 280-408278/17		03/19/2018 09:36	1		RTX-624 0.53 (mm)
STD 280-408278/18 IC		03/19/2018 09:57	1	MS9_7349.D	RTX-624 0.53 (mm)
STD 280-408278/19 IC		03/19/2018 10:17	1	MS9_7350.D	RTX-624 0.53 (mm)
STD 280-408278/20 IC		03/19/2018 10:38	1	MS9_7351.D	RTX-624 0.53 (mm)
ICIS 280-408278/21		03/19/2018 10:59	1	MS9_7352.D	RTX-624 0.53 (mm)
STD 280-408278/22 IC		03/19/2018 11:20	1	MS9_7353.D	RTX-624 0.53 (mm)
STD 280-408278/23 IC		03/19/2018 11:40	1	MS9_7354.D	RTX-624 0.53 (mm)
ICV 280-408278/24		03/19/2018 12:01	1	MS9_7355.D	RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 12:22	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 12:43	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 13:04	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 13:25	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 13:45	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 14:06	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 14:27	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 14:48	1		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 15:09	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 15:30	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 15:51	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 16:12	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 16:33	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 16:54	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 17:15	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 17:36	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 17:57	400		RTX-624 0.53 (mm)
ZZZZZ		03/19/2018 18:18	400		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Start Date: 05/30/2018 19:18Analysis Batch Number: 416844 End Date: 05/31/2018 02:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-416844/1		05/30/2018 19:18	1	MS9_0683.D	RTX-624 0.53 (mm)
STD60 280-416844/10 IC		05/30/2018 23:13	1	MS9_0688.D	RTX-624 0.53 (mm)
STD30 280-416844/11 IC		05/30/2018 23:34	1	MS9_0689.D	RTX-624 0.53 (mm)
ICIS 280-416844/12		05/30/2018 23:55	1	MS9_0690.D	RTX-624 0.53 (mm)
STD5 280-416844/13 IC		05/31/2018 00:16	1	MS9_0691.D	RTX-624 0.53 (mm)
STD2 280-416844/14 IC		05/31/2018 00:36	1	MS9_0692.D	RTX-624 0.53 (mm)
STD1 280-416844/15 IC		05/31/2018 00:57	1	MS9_0693.D	RTX-624 0.53 (mm)
STD03 280-416844/16 IC		05/31/2018 01:18	1	MS9_0694.D	RTX-624 0.53 (mm)
ICV 280-416844/17		05/31/2018 02:52	1	MS9_0695.D	RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 06/13/2018 19:44Analysis Batch Number: 418481End Date: 06/14/2018 07:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-418481/1		06/13/2018 19:44	1	MS9_1292.D	RTX-624 0.53 (mm)
CCV 280-418481/2		06/13/2018 20:34	1		RTX-624 0.53 (mm)
CCV 280-418481/3		06/13/2018 20:55	1		RTX-624 0.53 (mm)
STD2 280-418481/10 IC		06/13/2018 21:22	1	MS9_1296.D	RTX-624 0.53 (mm)
STD5 280-418481/11 IC		06/13/2018 21:43	1	MS9_1297.D	RTX-624 0.53 (mm)
STD10 280-418481/12 IC		06/13/2018 22:04	1	MS9_1298.D	RTX-624 0.53 (mm)
STD30 280-418481/13 IC		06/13/2018 22:25	1	MS9_1299.D	RTX-624 0.53 (mm)
STD60 280-418481/14 IC		06/13/2018 22:46	1	MS9_1300.D	RTX-624 0.53 (mm)
ICV 280-418481/15		06/13/2018 23:07	1	MS9_1301.D	RTX-624 0.53 (mm)
ZZZZZ		06/13/2018 23:45	10		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 00:27	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 01:01	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 01:22	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 01:43	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 02:04	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 02:25	20		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 02:46	200		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 03:07	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 03:27	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 03:48	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 04:09	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 04:30	4		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 04:51	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 05:12	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 05:33	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 05:53	40		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 06:14	400		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 06:35	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 06:56	1		RTX-624 0.53 (mm)
ZZZZZ		06/14/2018 07:17	1		RTX-624 0.53 (mm)
CCVC 280-418481/37		06/14/2018 07:38	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 06/28/2018 08:48Analysis Batch Number: 420342End Date: 06/28/2018 19:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420342/1		06/28/2018 08:48	1	MS9_1988.D	RTX-624 0.53 (mm)
CCV 280-420342/2		06/28/2018 09:28	1	MS9_1990.D	RTX-624 0.53 (mm)
CCV 280-420342/3		06/28/2018 09:48	1	MS9_1991.D	RTX-624 0.53 (mm)
LCS 280-420342/4		06/28/2018 10:09	1	MS9_1992.D	RTX-624 0.53 (mm)
MB 280-420342/6		06/28/2018 10:30	1	MS9_1993.D	RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 10:50	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 11:11	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 11:32	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 11:53	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 12:13	1		RTX-624 0.53 (mm)
280-111005-10		06/28/2018 12:34	1	MS9_1999.D	RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 12:58	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 13:39	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 14:00	1		RTX-624 0.53 (mm)
280-111018-E-5 MS		06/28/2018 14:21	1	MS9_2004.D	RTX-624 0.53 (mm)
280-111018-E-5 MSD		06/28/2018 15:03	1	MS9_2006.D	RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 15:23	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 15:44	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 16:05	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 16:26	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 18:09	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 18:30	4		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 18:51	40		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 19:12	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 19:32	1		RTX-624 0.53 (mm)
ZZZZZ		06/28/2018 19:53	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1Start Date: 06/20/2018 23:30Analysis Batch Number: 419367End Date: 06/21/2018 09:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-419367/1		06/20/2018 23:30	1	R2068.D	DB-624 (60.25) 0.25 (mm)
STD60 280-419367/10 IC		06/21/2018 00:33	1	R2071.D	DB-624 (60.25) 0.25 (mm)
STD30 280-419367/11 IC		06/21/2018 00:52	1	R2072.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 00:52	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419367/12 IC		06/21/2018 01:11	1	R2073.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 01:11	1		DB-624 (60.25) 0.25 (mm)
STD5 280-419367/13 IC		06/21/2018 01:30	1	R2074.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 01:30	1		DB-624 (60.25) 0.25 (mm)
STD2 280-419367/14 IC		06/21/2018 01:49	1	R2075.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 01:49	1		DB-624 (60.25) 0.25 (mm)
STD1 280-419367/15 IC		06/21/2018 02:08	1	R2076.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 02:08	1		DB-624 (60.25) 0.25 (mm)
STD03 280-419367/16 IC		06/21/2018 02:28	1	R2077.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 02:28	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419367/17		06/21/2018 02:47	1	R2078.D	DB-624 (60.25) 0.25 (mm)
280-111102-A-1 MDLV		06/21/2018 05:58	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-2 MDLV		06/21/2018 06:17	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-3 MDLV		06/21/2018 06:36	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-4 MDLV		06/21/2018 06:55	1		DB-624 (60.25) 0.25 (mm)
280-111102-A-5 MDLV		06/21/2018 07:14	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/18 IC		06/21/2018 07:34	1	R2085.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 07:34	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/19 IC		06/21/2018 07:53	1	R2086.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 07:53	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/20 IC		06/21/2018 08:12	1	R2087.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 08:12	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-419367/21		06/21/2018 08:32	1	R2088.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 08:32	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/22 IC		06/21/2018 08:51	1	R2089.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 08:51	1		DB-624 (60.25) 0.25 (mm)
STD 280-419367/23 IC		06/21/2018 09:10	1	R2090.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/21/2018 09:10	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419367/24		06/21/2018 09:29	1	R2091.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111005-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_R1Start Date: 06/28/2018 18:32Analysis Batch Number: 420464End Date: 06/29/2018 04:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-420464/1		06/28/2018 18:32	1	R2501.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420464/2		06/28/2018 19:08	1	R2503.D	DB-624 (60.25) 0.25 (mm)
CCV 280-420464/3		06/28/2018 19:27	1	R2504.D	DB-624 (60.25) 0.25 (mm)
MB 280-420464/6		06/28/2018 20:12	1	R2506.D	DB-624 (60.25) 0.25 (mm)
280-111005-8		06/28/2018 20:38	1	R2507.D	DB-624 (60.25) 0.25 (mm)
LCS 280-420464/4		06/28/2018 20:57	1	R2508.D	DB-624 (60.25) 0.25 (mm)
280-111005-3		06/28/2018 21:16	200	R2509.D	DB-624 (60.25) 0.25 (mm)
280-111005-4		06/28/2018 21:36	40	R2510.D	DB-624 (60.25) 0.25 (mm)
280-111005-5		06/28/2018 21:55	1	R2511.D	DB-624 (60.25) 0.25 (mm)
280-111005-6		06/28/2018 22:14	800	R2512.D	DB-624 (60.25) 0.25 (mm)
280-111005-9		06/28/2018 22:33	1	R2513.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 22:53	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 23:12	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/28/2018 23:31	1		DB-624 (60.25) 0.25 (mm)
280-111005-3 MS		06/28/2018 23:52	200	R2517.D	DB-624 (60.25) 0.25 (mm)
280-111005-3 MSD		06/29/2018 00:11	200	R2518.D	DB-624 (60.25) 0.25 (mm)
280-111005-3 DL		06/29/2018 00:30	2000	R2519.D	DB-624 (60.25) 0.25 (mm)
280-111005-4 DL		06/29/2018 00:49	400	R2520.D	DB-624 (60.25) 0.25 (mm)
280-111005-5 DL		06/29/2018 01:09	4	R2521.D	DB-624 (60.25) 0.25 (mm)
280-111005-6 DL		06/29/2018 01:28	8000	R2522.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 01:47	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 02:06	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 02:25	400		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 02:44	400		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 03:03	400		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 03:22	400		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 03:42	400		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 04:01	400		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 04:21	400		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/29/2018 04:40	400		DB-624 (60.25) 0.25 (mm)



TestAmerica Laboratories  
Worklist Run Log Report

Worklist Name: 062818 Worklist Num: 71459  
 Instrument: VMS\_MS9 Method: AQ\_VMSMS9\_8260  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180628-71459.b  
 Analysis Type: VOA Creator: Ilczyszyn, Dennis P  
 Inj Volume: 20.00 Inj Vol Units: mL  
 Run Reagents:  
 MV-568718-D\_00014, Amount Added: 1.00 , Units: uL  
 MV-ARCH SS A\_00099, Amount Added: 0.76 , Units: uL

Lab ID	Worklist ID	Sample Type	Inj Date/Time	File Name	Vial	Dil Factor	Client ID	Fract
BFB	280-0071459-001	BFB	28-Jun-2018 08:48:30	MS9_1988.D	100	1.0		voaWater
CCV	280-0071459-002	CCV	28-Jun-2018 09:28:30	MS9_1990.D	11	1.0		voaWater
CCV	280-0071459-003	CCV	28-Jun-2018 09:48:30	MS9_1991.D	12	1.0		voaWater
LCS	280-0071459-004	LCS	28-Jun-2018 10:09:30	MS9_1992.D	13	1.0		voaWater
LCSD	280-0071459-005	LCSD						
MB	280-0071459-006	MB	28-Jun-2018 10:30:30	MS9_1993.D	14	1.0		voaWater
280-108595-A-1	280-0071459-007	Client						
280-108595-A-2	280-0071459-008	Client						
280-108595-A-3	280-0071459-009	Client						
280-111017-A-1	280-0071459-010	Client	28-Jun-2018 10:50:30	MS9_1994.D	15	1.0	TB-20180614	voaWater
280-111017-K-14	280-0071459-011	Client	28-Jun-2018 11:11:30	MS9_1995.D	16	1.0	EB-20180614	voaWater
280-111018-A-7	280-0071459-012	Client	28-Jun-2018 11:32:30	MS9_1996.D	17	1.0	TB-061418-3	voaWater
280-111018-D-12	280-0071459-013	Client	28-Jun-2018 11:53:30	MS9_1997.D	18	1.0	EB-061418-1	voaWater
280-111018-B-14	280-0071459-014	Client	28-Jun-2018 12:13:30	MS9_1998.D	19	1.0	TB-061418-2	voaWater
280-111005-B-10	280-0071459-015	Client	28-Jun-2018 12:34:30	MS9_1999.D	20	1.0	AFDV-154	voaWater
280-111018-D-1	280-0071459-016	Client	28-Jun-2018 12:58:30	MS9_2000.D	29	1.0	GW2018-SOL-P-2	voaWater
280-111018-D-3	280-0071459-017	Client	28-Jun-2018 13:39:30	MS9_2002.D	10	1.0	GW2018-SOL-MW-500	voaWater
280-111018-D-5	280-0071459-018	Client	28-Jun-2018 14:00:30	MS9_2003.D	11	1.0	GW2018-SOL-MW-501	voaWater
280-111018-E-5 MS	280-0071459-019	MS	28-Jun-2018 14:21:30	MS9_2004.D	12	1.0	GW2018-SOL-MW-501	voaWater
280-111018-E-5 MSD	280-0071459-020	MSD	28-Jun-2018 15:03:30	MS9_2006.D	14	1.0	GW2018-SOL-MW-501	voaWater
280-111018-D-8	280-0071459-021	Client	28-Jun-2018 15:23:30	MS9_2007.D	15	1.0	GW2018-SOL-OW-J11	voaWater
280-111018-F-10	280-0071459-022	Client	28-Jun-2018 15:44:30	MS9_2008.D	16	1.0	GW2018-SOL-OW-J12	voaWater
280-111018-D-15	280-0071459-023	Client	28-Jun-2018 16:05:30	MS9_2009.D	17	1.0	GW2018-SOL-MW-400	voaWater
280-111018-E-17	280-0071459-024	Client	28-Jun-2018 16:26:30	MS9_2010.D	18	1.0	GW2018-SOL-MW-401	voaWater
280-111018-F-19	280-0071459-025	Client	28-Jun-2018 19:32:30	MS9_2017.D	39	1.0	GW2018-MW-25	voaWater
280-111018-E-19 MS	280-0071459-026	MS	28-Jun-2018 19:53:30	MS9_2018.D	40	1.0	GW2018-MW-25	voaWater
280-111018-E-19 MSD	280-0071459-027	MSD	28-Jun-2018 18:09:30	MS9_2013.D	35	1.0	GW2018-MW-25	voaWater
280-111018-D-21	280-0071459-028	Client	28-Jun-2018 18:30:30	MS9_2014.D	36	4.0	GW2018-OW-02	voaWater
280-111018-D-21	280-0071459-029	Client	28-Jun-2018 18:51:30	MS9_2015.D	37	40.0	GW2018-OW-02	voaWater
280-111018-F-23	280-0071459-030	Client	28-Jun-2018 19:12:30	MS9_2016.D	38	1.0	GW2018-MW-10	voaWater
Samp 31	280-0071459-031	Client						

TestAmerica Denver

Instrument: MS9  
 DV-MS-0010 (826003/824) (Circle)  
 Purge Volume: 20mL/5mL/5g















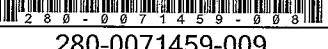

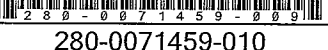
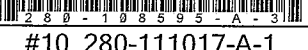
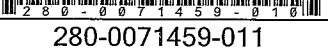
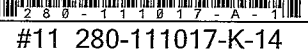
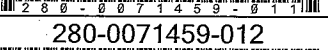
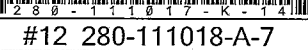
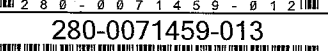
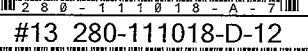
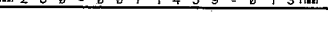
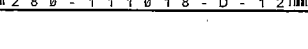
Time Time: 6045-1512  
 420342












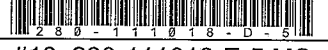
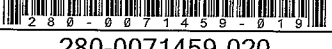
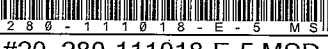
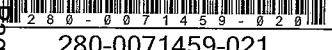

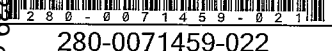
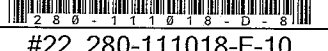
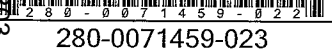
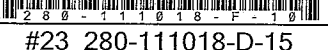
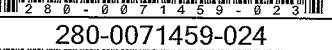
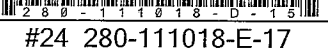
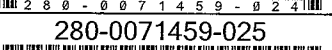
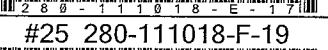
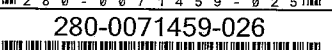
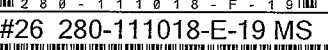
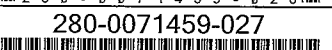
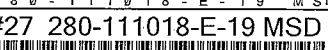

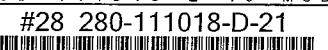








TestAmerica Laboratories  
Worklist Report

Worklist Name: 062818  
 Instrument Name: VMS\_MS9  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180628-71459.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00099

Worklist Number: 71459  
 Chrom Method: AQ\_VMSMS9\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.760, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071459-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071459-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00073	CCV	voaWater	20.00	mL	1.000
280-0071459-003 	# 3 CCV 	MV-Supp A_00029 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0071459-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCS	voaWater	20.00	mL	1.000
280-0071459-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCSD	voaWater	20.00	mL	1.000
280-0071459-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0071459-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071459-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071459-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071459-010 	#10 280-111017-A-1 		Client	voaWater	20.00	mL	1.000
280-0071459-011 	#11 280-111017-K-14 		Client	voaWater	20.00	mL	1.000
280-0071459-012 	#12 280-111018-A-7 		Client	voaWater	20.00	mL	1.000
280-0071459-013 	#13 280-111018-D-12 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071459-014 	#14 280-111018-B-14 		Client	voaWater	20.00	mL	1.000
280-0071459-015 	#15 280-111005-B-10 		Client	voaWater	20.00	mL	1.000
280-0071459-016 	#16 280-111018-D-1 		Client	voaWater	20.00	mL	1.000
280-0071459-017 	#17 280-111018-D-3 		Client	voaWater	20.00	mL	1.000
280-0071459-018 	#18 280-111018-D-5 		Client	voaWater	20.00	mL	1.000
280-0071459-019 	#19 280-111018-E-5 MS 	MV-Gas/Ket B_00042 MV-Main B_00021 MV-SS 2-Cleve_00043	MS	voaWater	20.00	mL	1.000
280-0071459-020 	#20 280-111018-E-5 MSD 	MV-Gas/Ket B_00042 MV-Main B_00021 MV-SS 2-Cleve_00043	MSD	voaWater	20.00	mL	1.000
280-0071459-021 	#21 280-111018-D-8 		Client	voaWater	20.00	mL	1.000
280-0071459-022 	#22 280-111018-F-10 		Client	voaWater	20.00	mL	1.000
280-0071459-023 	#23 280-111018-D-15 		Client	voaWater	20.00	mL	1.000
280-0071459-024 	#24 280-111018-E-17 		Client	voaWater	20.00	mL	1.000
280-0071459-025 	#25 280-111018-F-19 		Client	voaWater	20.00	mL	1.000
280-0071459-026 	#26 280-111018-E-19 MS 	MV-Gas/Ket B_00042 MV-Main B_00021 MV-SS 2-Cleve_00043	MS	voaWater	20.00	mL	1.000
280-0071459-027 	#27 280-111018-E-19 MSD 	MV-Gas/Ket B_00042 MV-Main B_00021 MV-SS 2-Cleve_00043	MSD	voaWater	20.00	mL	1.000
280-0071459-028 	#28 280-111018-D-21 		Client	voaWater	20.00	mL	4.000
280-0071459-029 	#29 280-111018-D-21 		Client	voaWater	20.00	mL	40.00
280-0071459-030 	#30 280-111018-F-23 		Client	voaWater	20.00	mL	1.000
280-0071459-031 	#31 Samp 31 		Client	voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\062818PM.s

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\062818PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument:

W-MS-C010 (602/524) (Circle)

Large Volume: 200µl/5ml/5µl

(Circle)

Time: 1832-440

Date: 420464

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

Sequence Barcode Options

( ) On Mismatch, Inject Anyway

( ) On Mismatch, Don't Inject

(X) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample	100 R2499 BFB BFB
2) Sample	100 R2500 BFB BFB
3) Sample	100 R2501 BFB BFB
4) Sample	10 R2502 8260 BLK
5) Sample	11 R2503 8260 CCV M
6) Sample	12 R2504 8260 CCV S
7) Sample	13 R2505 8260 LCS
8) Sample	14 R2506 8260 MB
9) Sample	15 R2507 8260 280-111005-a-8 PH<2
10) Sample	16 R2508 8260 LCS
11) Sample	17 R2509 8260 280-111005-e-3 PH<2 200X
12) Sample	18 R2510 8260 280-111005-e-4 PH<2 40X
13) Sample	19 R2511 8260 280-111005-e-5 PH<2
14) Sample	20 R2512 8260 280-111005-c-6 PH<2 800X
15) Sample	21 R2513 8260 280-111005-b-9 PH<2
16) Sample	22 R2514 8260 280-111058-c-27 PH<2 10X
17) Sample	23 R2515 8260 280-111058-e-28 PH<2
18) Sample	24 R2516 8260 280-111018-a-25 PH<2
19) Sample	25 R2517 8260 280-111005-e-3 MS PH<2 200X
20) Sample	26 R2518 8260 280-111005-e-3 MSD PH<2 200X
21) Sample	27 R2519 8260 280-111005-e-3 PH<2 2000X
22) Sample	28 R2520 8260 280-111005-e-4 PH<2 400X
23) Sample	29 R2521 8260 280-111005-e-5 PH<2 4X
24) Sample	30 R2522 8260 280-111005-c-6 PH<2 8000X
25) Sample	31 R2523 8260 280-111071-f-20 PH<2
26) Sample	32 R2524 8260 280-111071-a-21 PH<2
27) Sample	33 R2525 8260 280-111296-b-1 PH<2 400X
28) Sample	34 R2526 8260 280-111296-b-2 PH<2 400X
29) Sample	35 R2527 8260 280-111296-b-3 PH<2 400X
30) Sample	36 R2528 8260 280-111296-b-4 PH<2 400X
31) Sample	37 R2529 8260 280-111296-b-5 PH<2 400X
32) Sample	38 R2530 8260 280-111296-b-6 PH<2 400X
33) Sample	39 R2531 8260 280-111296-b-7 PH<2 400X
34) Sample	40 R2532 8260 280-111296-c-8 PH<2 400X

6/29/18

10







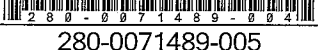

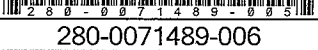
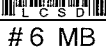
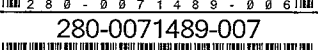
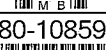
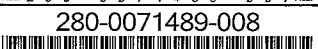
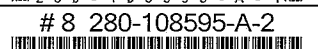
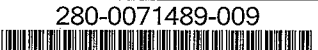













TestAmerica Laboratories  
Worklist Report

















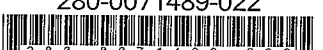

















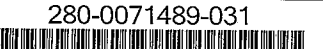
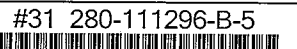
Worklist Name: 062818pm  
 Instrument Name: VMS\_R1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_R1\20180628-71489.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_R1  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00098

Worklist Number: 71489  
 Chrom Method: AQ\_VMSR1\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.960, Units: uL









Page 241 of 303

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071489-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071489-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00074	CCV	voaWater	20.00	mL	1.000
280-0071489-003 	# 3 CCV 	MV-Supp A_00030 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0071489-004 	# 4 LCS 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCS	voaWater	20.00	mL	1.000
280-0071489-005 	# 5 LCSD 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCSD	voaWater	20.00	mL	1.000
280-0071489-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0071489-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071489-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071489-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071489-010 	#10 280-111005-E-3 		Client	voaWater	20.00	mL	200.0
280-0071489-011 	#11 280-111005-E-3 		Client	voaWater	20.00	mL	2000.0
280-0071489-012 	#12 280-111005-E-3 		Client	voaWater	20.00	mL	200.0
280-0071489-013 	#13 280-111005-E-3 		Client	voaWater	20.00	mL	200.0



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071489-014 	#14 280-111005-E-4 		Client	voaWater	20.00	mL	410.0
280-0071489-015 	#15 280-111005-E-4 		Client	voaWater	20.00	mL	400.0
280-0071489-016 	#16 280-111005-E-5 		Client	voaWater	20.00	mL	1.000
280-0071489-017 	#17 280-111005-E-5 		Client	voaWater	20.00	mL	4.000
280-0071489-018 	#18 280-111005-C-6 		Client	voaWater	20.00	mL	800.0
280-0071489-019 	#19 280-111005-C-6 		Client	voaWater	20.00	mL	8000.0
280-0071489-020 	#20 280-111005-A-8 		Client	voaWater	20.00	mL	1.000
280-0071489-021 	#21 280-111005-B-9 		Client	voaWater	20.00	mL	1.000
280-0071489-022 	#22 280-111058-C-27 		Client	voaWater	20.00	mL	1.000
280-0071489-023 	#23 280-111058-E-28 		Client	voaWater	20.00	mL	1.000
280-0071489-024 	#24 280-111018-A-25 		Client	voaWater	20.00	mL	1.000
280-0071489-025 	#25 280-111071-F-20 		Client	voaWater	20.00	mL	1.000
280-0071489-026 	#26 280-111071-A-21 		Client	voaWater	20.00	mL	1.000
280-0071489-027 	#27 280-111296-B-1 		Client	voaWater	20.00	mL	400.0
280-0071489-028 	#28 280-111296-B-2 		Client	voaWater	20.00	mL	400.0
280-0071489-029 	#29 280-111296-B-3 		Client	voaWater	20.00	mL	400.0
280-0071489-030 	#30 280-111296-B-4 		Client	voaWater	20.00	mL	400.0
280-0071489-031 	#31 280-111296-B-5 		Client	voaWater	20.00	mL	400.0



Worklist ID	Lims ID		Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071489-032 	#32 280-111296-B-6 			Client	voaWater	20.00	mL	400.0
280-0071489-033 	#33 280-111296-B-7 			Client	voaWater	20.00	mL	400.0
280-0071489-034 	#34 280-111296-C-8 			Client	voaWater	20.00	mL	400.0
280-0071489-035 	#35 Samp 35 			Client	voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\031918i.s

Comment:

Operator: DOBRANSKYM

Data Path: C:\MSDCHEM\1\DATA\031918i\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9  
DV-MS-0010 (8260B/624) (Circle)

Purge Volume: (20 mL/5 mL/5 g) (Circle)

Tune Time: 637-

Line Datch: 408 278

WL: 68105

Line Sample Name/Misc Info

1)	Sample	100	MS9_7338	BFB	BFB
2)	Sample	100	MS9_7339	BFB	BFB
3)	Sample	9	MS9_7340	8260	BLK
4)	Sample	10	MS9_7341	8260	STD
5)	Sample	11	MS9_7342	8260	STD
6)	Sample	12	MS9_7343	8260	STD
7)	Sample	13	MS9_7344	8260	STD
8)	Sample	14	MS9_7345	8260	STD
9)	Sample	15	MS9_7346	8260	STD
10)	Sample	16	MS9_7347	8260	STD
11)	Sample	17	MS9_7348	8260	ICV
12)	Sample	18	MS9_7349	8260	STD
13)	Sample	19	MS9_7350	8260	STD
14)	Sample	20	MS9_7351	8260	STD
15)	Sample	21	MS9_7352	8260	ICIS
16)	Sample	22	MS9_7353	8260	STD
17)	Sample	23	MS9_7354	8260	STD
18)	Sample	24	MS9_7355	8260	ICV
19)	Sample	25	MS9_7356	8260	LCS
20)	Sample	26	MS9_7357	8260	MB
21)	Sample	27	MS9_7358	8260	280-107480-F-6 PH 5
22)	Sample	28	MS9_7359	8260	280-107480-F-4 PH 5
23)	Sample	29	MS9_7360	8260	280-107480-F-5 PH 5
24)	Sample	30	MS9_7361	8260	280-107480-A-7 PH 5
25)	Sample	31	MS9_7362	8260	280-107480-H-6 MS PH 5
26)	Sample	32	MS9_7363	8260	280-107480-H-6 MSD PH 5
27)	Sample	33	MS9_7364	8260	280-107463-B-1 PH<2 0.05mL
28)	Sample	34	MS9_7365	8260	280-107463-B-2 PH<2 0.05mL
29)	Sample	35	MS9_7366	8260	280-107463-B-3 PH<2 0.05mL
30)	Sample	36	MS9_7367	8260	280-107463-B-4 PH<2 0.05mL
31)	Sample	37	MS9_7368	8260	280-107463-B-5 PH<2 0.05mL
32)	Sample	38	MS9_7369	8260	280-107463-B-6 PH<2 0.05mL
33)	Sample	39	MS9_7370	8260	280-107463-B-7 PH<2 0.05mL
34)	Sample	40	MS9_7371	8260	280-107463-B-8 PH<2 0.05mL
35)	Sample	41	MS9_7372	8260	280-107463-B-9 PH<2 0.05mL
36)	Sample	42	MS9_7373	8260	280-107463-B-10 PH<2 0.05mL
37)	Sample	43	MS9_7374	8260	280-107463-B-11 PH 6 0.05mL

Call ID: Main 3/19/14

Supp 3/19/15

ICV: Ethyl acetate + 20.9%

1st level: MS9 3/19/18

2nd level: Tan 3-19-18



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 031918

Worklist Number: 68105

Instrument Name: VMS\_MS9

Chrom Method: AQ\_VMSMS9\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180319-68105.b

QC Batching: Disabled














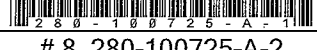
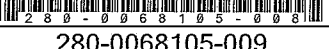
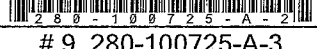
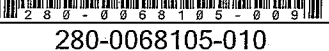

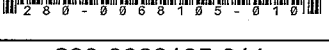
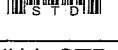




Limit Group Batching: Enabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 408278
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-100725-A-1	# 7 280-100725-A-1
# 8 280-100725-A-2	# 8 280-100725-A-2
# 9 280-100725-A-3	# 9 280-100725-A-3
#10 STD	#10 STD
#11 STD	#11 STD
#12 STD	#12 STD
#13 STD	#13 STD
#14 STD	#14 STD
#15 STD	#15 STD
#16 STD	#16 STD
#17 ICV	#17 ICV
#18 std	#18 std
#19 std	#19 std
#20 std	#20 std
#21 ICIS	#21 ICIS
#22 std	#22 std
#23 std	#23 std
#24 ICV	#24 ICV















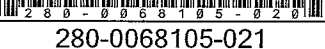


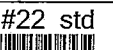




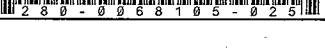
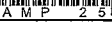




TestAmerica Laboratories  
Worklist Report

Worklist Name: 031918  
 Instrument Name: VMS\_MS9  
 Injection Volume: 1.000  
 Analysis Type: Semi VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180319-68105.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00092 Amount Added: 0.900, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0068105-001 	# 1 BFB 	MV-BFB_00025	BFB		voaWater	1.000	uL	1.000
280-0068105-002 	# 2 CCV 	MV-2cleve+AVA_00033 MV-Main A_00034 MV-Gas/Ket A_00071	CCV		voaWater	20.00	mL	1.000
280-0068105-003 	# 3 CCV 	MV-568718-D_00008 MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0068105-004 	# 4 LCS 	MV-SS 2-Cleve_00042 MV-Main B_00020 MV-Gas/Ket B_00041	LCS		voaWater	20.00	mL	1.000
280-0068105-005 	# 5 LCSD 	MV-SS 2-Cleve_00042 MV-Main B_00020 MV-Gas/Ket B_00041	LCSD		voaWater	20.00	mL	1.000
280-0068105-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0068105-007 	# 7 280-100725-A-1 		Client		voaWater	20.00	mL	1.000
280-0068105-008 	# 8 280-100725-A-2 		Client		voaWater	20.00	mL	1.000
280-0068105-009 	# 9 280-100725-A-3 		Client		voaWater	20.00	mL	1.000
280-0068105-010 	#10 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	1	voaWater	20.00	mL	1.000
280-0068105-011 	#11 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	2	voaWater	20.00	mL	1.000
280-0068105-012 	#12 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	3	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0068105-013 	#13 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	4	voaWater	20.00	mL	1.000
280-0068105-014 	#14 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	5	voaWater	20.00	mL	1.000
280-0068105-015 	#15 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	6	voaWater	20.00	mL	1.000
280-0068105-016 	#16 STD 	MV-568718-D_00008 MV-Main A_00034 MV-Gas/Ket A_00071 MV-2cleve+AVA_00033	IC	7	voaWater	20.00	mL	1.000
280-0068105-017 	#17 ICV 	MV-568718-D_00008 MV-Main B_00020 MV-Gas/Ket B_00041 MV-SS 2-Cleve_00042	ICV		voaWater	20.00	mL	1.000
280-0068105-018 	#18 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	2	voaWater	20.00	mL	1.000
280-0068105-019 	#19 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	3	voaWater	20.00	mL	1.000
280-0068105-020 	#20 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	4	voaWater	20.00	mL	1.000
280-0068105-021 	#21 ICIS 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	ICIS	5	voaWater	20.00	mL	1.000
280-0068105-022 	#22 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	6	voaWater	20.00	mL	1.000
280-0068105-023 	#23 std 	MV-568718-D_00008 MV-ARCH SS A_00092 MV-Supp A_00029	IC	7	voaWater	20.00	mL	1.000
280-0068105-024 	#24 ICV 	MV-568718-D_00008 MV-Supp B_00020 MV-ARCH SS A_00092	ICV		voaWater	20.00	mL	1.000
280-0068105-025 	#25 Samp 25 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\053018PM.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\053018PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9

V-MS-0010 (82608/624) (Circle)

Purge Volume: (20) mL/5mL/5g

Tune Time: 1918 - 252 (Circle)

Time Path: 416844

WL: 170509

-----  
Line Sample Name/Misc Info

1)	Sample	100	MS9_0683 BFB	BFB
2)	Sample	10	MS9_0684 8260	BLK
3)	Sample	11	MS9_0685 8260	CCV M
4)	Sample	12	MS9_0686 8260	CCV S
5)	Sample	13	MS9_0687 8260	BLK
6)	Sample	14	MS9_0688 8260	STD60
7)	Sample	15	MS9_0689 8260	STD30
8)	Sample	16	MS9_0690 8260	STD10
9)	Sample	17	MS9_0691 8260	STD5
10)	Sample	18	MS9_0692 8260	STD2
11)	Sample	19	MS9_0693 8260	STD1
12)	Sample	20	MS9_0694 8260	STD03
13)	Sample	21	MS9_0695 8260	ICV
14)	Sample	22	MS9_0696 8260	PRIMER
15)	Sample	23	MS9_0697 8260	ICV
16)	Sample	24	MS9_0698 8260	BLK

Calibration Event ID: 32565

ICIS Line 12

ICV Line 17

Q5

1st level: MSD 5/31/18  
2nd level: Tan 5-31-18



Sequence Name: C:\msdchem\1\sequence\061318PM.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\061318PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: 1539

DV-MS-0010 (8260/8260) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 1944 - 2307

Line Batch: 418481

Line	Sample Name/Misc Info
1) Sample	100 MS9_1290 BFB BFB
2) Sample	100 MS9_1291 BFB BFB
3) Sample	100 MS9_1292 BFB BFB
4) Sample	10 MS9_1293 8260 BLK
5) Sample	11 MS9_1294 8260 CCV M
6) Sample	12 MS9_1295 8260 CCV S
7) Sample	13 MS9_1296 8260 STD2
8) Sample	14 MS9_1297 8260 STD5
9) Sample	15 MS9_1298 8260 STD10
10) Sample	16 MS9_1299 8260 STD30
11) Sample	17 MS9_1300 8260 STD60
12) Sample	18 MS9_1301 8260 ICV

6/13/18

*[Signature]*

SS ICAV

RSN

6/13/18

ICV Line 15







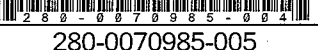

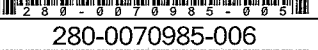
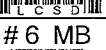
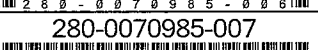
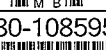

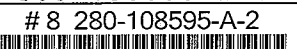














TestAmerica Laboratories  
Worklist Report





































Worklist Name: 061318pm  
 Instrument Name: VMS\_MS9  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180613-70985.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00095

Worklist Number: 70985  
 Chrom Method: AQ\_VMSMS9\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.800, Units: uL

Page 250 of 303

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070985-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0070985-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00073	CCV		voaWater	20.00	mL	1.000
280-0070985-003 	# 3 CCV 	MV-Supp A_00029 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0070985-004 	# 4 LCS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCS		voaWater	20.00	mL	1.000
280-0070985-005 	# 5 LCSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	LCSD		voaWater	20.00	mL	1.000
280-0070985-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0070985-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0070985-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0070985-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0070985-010 	#10 STD2 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	3	voaWater	20.00	mL	1.000
280-0070985-011 	#11 STD5 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	4	voaWater	20.00	mL	1.000
280-0070985-012 	#12 STD10 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	5	voaWater	20.00	mL	1.000
280-0070985-013 	#13 STD30 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	6	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0070985-014 	#14 STD60 	MV-568718-D_00014 MV-ARCH SS A_00095	IC	7	vowater	20.00	mL	1.000
280-0070985-015 	#15 ICV 	MV-568718-D_00014 MV-ARCH SS A_00095	ICV		vowater	20.00	mL	1.000
280-0070985-016 	#16 580-77744-E-6 		Client		vowater	20.00	mL	10.00
280-0070985-017 	#17 280-110411-A-8 		Client		vowater	20.00	mL	20.00
280-0070985-018 	#18 280-110411-A-8 		Client		vowater	20.00	mL	200.0
280-0070985-019 	#19 280-110411-A-9 		Client		vowater	20.00	mL	1.000
280-0070985-020 	#20 280-110411-A-10 		Client		vowater	20.00	mL	1.000
280-0070985-021 	#21 280-110411-A-11 		Client		vowater	20.00	mL	1.000
280-0070985-022 	#22 280-110411-A-12 		Client		vowater	20.00	mL	1.000
280-0070985-023 	#23 280-110411-A-12 		Client		vowater	20.00	mL	4.000
280-0070985-024 	#24 280-110411-A-13 		Client		vowater	20.00	mL	1.000
280-0070985-025 	#25 280-110411-A-14 		Client		vowater	20.00	mL	1.000
280-0070985-026 	#26 280-110411-A-14 MS 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	MS		vowater	20.00	mL	1.000
280-0070985-027 	#27 280-110411-A-14 MSD 	MV-SS 2-Cleve_00043 MV-Main B_00021 MV-Gas/Ket B_00042	MSD		vowater	20.00	mL	1.000
280-0070985-028 	#28 280-110411-A-15 		Client		vowater	20.00	mL	1.000
280-0070985-029 	#29 280-110411-B-16 		Client		vowater	20.00	mL	1.000
280-0070985-030 	#30 280-110411-B-17 		Client		vowater	20.00	mL	40.00
280-0070985-031 	#31 280-110411-B-17 		Client		vowater	20.00	mL	400.0



Full ICAL

## GCMS Volatile ICAL Data Review Checklist

N.C. Ethanol / propene oxide / Tetrachloroethane

LIMS Batch Number: <b>419367</b>	Worklist #: <b>71198</b>	ICAL Event #: —	ICIS/ICV Line #s: <b>17/21/24</b>	2 <sup>nd</sup> Day CV Line# —	Instrument ID: <b>P1 6/20</b>
2 <sup>nd</sup> Day Batch/ICV Lines: <b>HAZY ICES/ SUPP</b>					
Analyst/1 <sup>st</sup> Reviewer: <b>[Signature]</b>		Prep Method (circle): <b>5030</b> 5035-L 5035-H		Analytical Method (circle): 624 <b>8260B</b> SIM Other —	
Date: <b>6/21/18</b>					
QC Type (circle): <b>Standard</b> DOD Q4 DoD Q5 QAPP Other —					
Matrix (circle one): <b>Water</b> Solid			Circle: 5-mL <b>20-mL</b> Meth Ext 5 g		

Review Items	NA	Yes	No	2 <sup>nd</sup> Rev	Comments
<b>A. Tune / Calibration</b>					
1. Did BFB meet tune criteria? If CFCs, did autotune meet SOP criteria?		✓		X	
2. Were all standards injected within 12 hours of the BFB? (or 24 hours for 624?)		✓		X	
3. Were ≥ 5 levels of each compound and surrogate analyzed? (624 has minimum of four standards)		✓		X	
4. Was low level standard at or below RL?		✓		X	
5. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)		✓		X	(Other than those stated in SOP) <b>Acrolein VL = 300</b> <b>Bromoform / DDEP / Hexachlorobutadiene</b> <b>VL = 30</b>
6. Do the average RFs meet minimum RF requirements? (624 – not method defined) (8260B-SPCCs = Chloromethane, 1,1-Dichloroethane, Bromoform ≥0.1; Chlorobenzene, 1,1,2,2-Tetrachloroethane ≥0.3)		✓		X	
7. Did the calibration %RSD meet method requirements? (624: ≤35% all cmpds) (8260B: ≤30% for CCCs & ≤15% for all other cmpds/surrogates)		✓		X	
8. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?		✓		X	
9. If regression fit used, is $r^2 \geq 0.990$ ?		✓		X	
10. At least 6 consecutive points used for quadratic curves?	✓			X	
11. For quadratic – examine plot: Is a tangent's slope to the curve entirely positive or negative and continuous? (does not flatten or recurve within the range of calibration)	✓			X	
12. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005); (recommended limits ±30% low point & ±20% all other points) (Chrom Report = Details of Calibration per Analyte)	✓			X	
13. Is the concentration intercept <  RL  for each cmpd? ("X" intercept in Chrom)		✓		X	
Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2 <sup>nd</sup> review of all MIs required		✓		X	
14. Was the high point checked for detector saturation?		✓		X	



Review Items	NA	Yes	No	2nd Rev	Comments
15. Isomeric pairs (checked for elution order/correct peak assignment?) <ul style="list-style-type: none"> <li>• Vinyl Acetate / Isopropyl Ether</li> <li>• 1,2- &amp; 1,3- &amp; 1,4-Dichlorobenzene</li> <li>• Ethylbenzene / m- &amp; p-Xylenes</li> <li>• o-Xylene / Styrene</li> <li>• 1,3,5- &amp; 1,2,4-Trimethylbenzene / Isopropylbenzene / sec-butylbenzene</li> <li>• 2-nitropropane between bromodichloromethane &amp; MIBK</li> <li>• 2- &amp; 4-Chlorotoluene / n-Propylbenzene</li> <li>• MIBK / 2-Hexanone</li> <li>• Methyl Methacrylate / Ethyl Methacrylate</li> <li>• 1,1-Dichloroethene / cis-1,2- &amp; trans-1,2-Dichloroethene</li> <li>• 1,2,3- &amp; 1,2,4-Trichlorobenzene</li> <li>• 1,1-Dichloropropene / cis-1,3- &amp; trans-1,3-Dichloropropene / 1,2,3-Trichloropropane</li> <li>• Chlorobenzene-d5 / 1,1,1,2-Tetrachloroethane</li> <li>• Trichlorofluoromethane / Freon 113</li> <li>• Hexane / Vinyl Acetate</li> </ul> (Chrom: View/Documents/Methods/Isomers)		✓		X	
16. Was the 2nd source initial calibration verification standard (ICV) within required criteria? (624 = QCS method defined/Table5) (8260B = SOP defined) (DoD = ±20%) QAPP specific		✓		X	Acrolein - 26.5% CIS 1,4-Dichloro-2-butene - 23.2%
17. Was the ICV Target report printed and elution order of all analytes verified? (attach at L1 Review)		✓		X	If No, immediate corrective action required
18. If any criteria from items 1-17 were not met, was a NCM generated and supervisor copied?		✓		X	
19. Are all files and QC linked and processed correctly?		✓		X	<input type="checkbox"/> Files linked properly to calibration levels? <input type="checkbox"/> All points are in the most recent active calibration event? [Calibration Events - 'Fix ICAL linkage' if needed] <input type="checkbox"/> Runs linked to BFB? [QC links] <input type="checkbox"/> Checklist & run log scanned, attached & assigned properly?
20. Is the ICAL locked in TALS and Chrom?		✓		X	
21. ICAL Date and Instrument ID verified?		✓		X	

Comments:

2<sup>nd</sup> Reviewer:

RSN

Review Date:

6/22/18



Sequence Name: C:\msdchem\1\sequence\062018PM.s

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\062018PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: R1

DV-MS-0010 (200B/624) (Circle)

Purge Volume: 20mL/5mL/5g

Tune Time: 2330-929 (Circle)

Lims Batch: 419367

Method Sections To Run

Sequence Barcode Options

(X) Full Method

( ) On Mismatch, Inject Anyway

( ) Reprocessing Only

( ) On Mismatch, Don't Inject

(X) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample	100 R2059 BFB BFB
2) Sample	10 R2060 8260 BLK
3) Sample	11 R2061 8260 CCV M
4) Sample	12 R2062 BFB CCV S
5) Sample	100 R2063 BFB BFB
6) Sample	10 R2064 8260 BLK
7) Sample	11 R2065 8260 CCV M
8) Sample	12 R2066 8260 CCV S
9) Sample	13 R2067 8260 CCV M
10) Sample	100 R2068 BFB BFB
11) Sample	10 R2069 8260 BLK
12) Sample	11 R2070 8260 BLK
13) Sample	12 R2071 8260 STD60
14) Sample	13 R2072 8260 STD30
15) Sample	14 R2073 8260 STD10
16) Sample	15 R2074 8260 STD5
17) Sample	16 R2075 8260 STD2
18) Sample	17 R2076 8260 STD1
19) Sample	18 R2077 8260 STD.3
20) Sample	19 R2078 8260 ICV
21) Sample	20 R2079 8260 MB
22) Sample	21 R2080 8260 280-111102-A-1 MDLV
23) Sample	22 R2081 8260 280-111102-A-2 MDLV
24) Sample	23 R2082 8260 280-111102-A-3 MDLV
25) Sample	24 R2083 8260 280-111102-A-4 MDLV
26) Sample	25 R2084 8260 280-111102-A-5 MDLV
27) Sample	26 R2085 8260 STD
28) Sample	27 R2086 8260 STD
29) Sample	28 R2087 8260 STD
30) Sample	29 R2088 8260 ICIS
31) Sample	30 R2089 8260 STD
32) Sample	31 R2090 8260 STD
33) Sample	32 R2091 8260 ICV
34) Sample	33 R2092 8260 PRIMER
35) Sample	34 R2093 8260 PRIMER

6/21/18







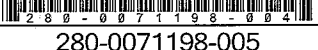

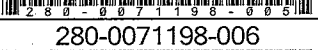
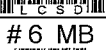
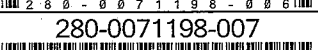
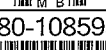
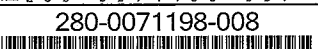
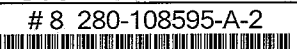




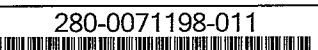

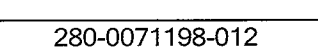

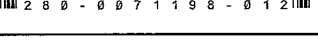
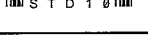
*[Signature]*



























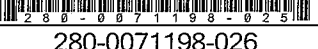
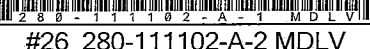
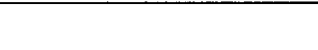
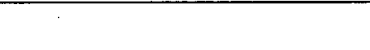
TestAmerica Laboratories  
Worklist Report

Worklist Name: 062018ICAL  
 Instrument Name: VMS\_R1  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_R1\20180621-71198.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_R1  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00098







Worklist Number: 71198  
 Chrom Method: AQ\_VMSR1\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.960, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071198-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071198-002 	# 2 CCV 	MV-Main A_00036 MV-2cleve+AVA_00036 MV-Gas/Ket A_00074	CCV		voaWater	20.00	mL	1.000
280-0071198-003 	# 3 CCV 	MV-Supp A_00030 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0071198-004 	# 4 LCS 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCS		voaWater	20.00	mL	1.000
280-0071198-005 	# 5 LCSD 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	LCSD		voaWater	20.00	mL	1.000
280-0071198-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0071198-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071198-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071198-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071198-010 	#10 STD60 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036 MV-568718-D_00014	IC	7	voaWater	20.00	mL	1.000
280-0071198-011 	#11 STD30 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036 MV-568718-D_00014	IC	6	voaWater	20.00	mL	1.000
280-0071198-012 	#12 STD10 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	5	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071198-013 	#13 STD5 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	4	voaWater	20.00	mL	1.000
280-0071198-014 	#14 STD2 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	3	voaWater	20.00	mL	1.000
280-0071198-015 	#15 STD1 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	2	voaWater	20.00	mL	1.000
280-0071198-016 	#16 STD03 	MV-568718-D_00014 MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	IC	1	voaWater	20.00	mL	1.000
280-0071198-017 	#17 ICV 	MV-568718-D_00014 MV-Main B_00021 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00044	ICV		voaWater	20.00	mL	1.000
280-0071198-018 	#18 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	2	voaWater	20.00	mL	1.000
280-0071198-019 	#19 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	3	voaWater	20.00	mL	1.000
280-0071198-020 	#20 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	4	voaWater	20.00	mL	1.000
280-0071198-021 	#21 ICIS 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	ICIS	5	voaWater	20.00	mL	1.000
280-0071198-022 	#22 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	6	voaWater	20.00	mL	1.000
280-0071198-023 	#23 std 	MV-568718-D_00014 MV-Supp A_00030 Freon_A_00009 MV-ARCH SS A_00098	IC	7	voaWater	20.00	mL	1.000
280-0071198-024 	#24 ICV 	MV-568718-D_00014 MV-Supp B_00020 Freon_B_00008 MV-ARCH SS A_00098	ICV		voaWater	20.00	mL	1.000
280-0071198-025 	#25 280-111102-A-1 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071198-026 	#26 280-111102-A-2 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071198-027 	#27 280-111102-A-3 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071198-028 	#28 280-111102-A-4 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000
280-0071198-029 	#29 280-111102-A-5 MDLV 	MV-Main A_00036 MV-Gas/Ket A_00074 MV-2cleve+AVA_00036	MDLV		voaWater	20.00	mL	1.000



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 408278 Batch Start Date: 03/19/18 06:37 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-ARCH SS A 00092	MV-BFB 00025	MV-Supp A 00029
BFB 280-408278/1		8260B		1 uL	1 uL			1 uL	
STD 280-408278/18 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD 280-408278/19 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD 280-408278/20 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-408278/21		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD 280-408278/22 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD 280-408278/23 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-408278/24		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-408278/1		8260B							
STD 280-408278/18 IC		8260B							
STD 280-408278/19 IC		8260B							
STD 280-408278/20 IC		8260B							
ICIS 280-408278/21		8260B							
STD 280-408278/22 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 408278 Batch Start Date: 03/19/18 06:37 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
STD 280-408278/23 IC		8260B							
ICV 280-408278/24		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 416844 Batch Start Date: 05/30/18 19:18 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00035	MV-568718-D 00014	MV-ARCH SS A 00095	MV-BFB 00026
BFB 280-416844/1		8260B		1 uL	1 uL				1 uL
STD60 280-416844/10 IC		8260B		20 mL	20 mL	30 uL	1 uL	4.8 uL	
STD30 280-416844/11 IC		8260B		20 mL	20 mL	15 uL	1 uL	2.4 uL	
ICIS 280-416844/12		8260B		20 mL	20 mL	5 uL	1 uL	0.8 uL	
STD5 280-416844/13 IC		8260B		20 mL	20 mL	2.5 uL	1 uL	0.4 uL	
STD2 280-416844/14 IC		8260B		20 mL	20 mL	1 uL	1 uL	0.16 uL	
STD1 280-416844/15 IC		8260B		20 mL	20 mL	0.5 uL	1 uL	0.08 uL	
STD03 280-416844/16 IC		8260B		20 mL	20 mL	0.15 uL	1 uL	0.024 uL	
ICV 280-416844/17		8260B		20 mL	20 mL		1 uL	0.8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
BFB 280-416844/1		8260B							
STD60 280-416844/10 IC		8260B		30 uL		30 uL			
STD30 280-416844/11 IC		8260B		15 uL		15 uL			
ICIS 280-416844/12		8260B		5 uL		5 uL			
STD5 280-416844/13 IC		8260B		2.5 uL		2.5 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 416844 Batch Start Date: 05/30/18 19:18 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	
STD2 280-416844/14 IC		8260B		1 uL		1 uL			
STD1 280-416844/15 IC		8260B		0.5 uL		0.5 uL			
STD03 280-416844/16 IC		8260B		0.15 uL		0.15 uL			
ICV 280-416844/17		8260B			5 uL		5 uL	5 uL	

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 418481 Batch Start Date: 06/13/18 19:44 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00095	MV-BFB 00026	
BFB 280-418481/1		8260B		1 uL	1 uL			1 uL	
STD2 280-418481/10 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		
STD5 280-418481/11 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		
STD10 280-418481/12 IC		8260B		20 mL	20 mL	1 uL	0.8 uL		
STD30 280-418481/13 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		
STD60 280-418481/14 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		
ICV 280-418481/15		8260B		20 mL	20 mL	1 uL	0.8 uL		

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Freon_A 00009	Freon_B 00008	MV-2cleve+AVA 00036	MV-568718-D 00014
BFB 280-419367/1		8260B		1 uL	1 uL				
STD60 280-419367/10 IC		8260B		20 mL	20 mL			30 uL	1 uL
STD30 280-419367/11 IC		8260B		20 mL	20 mL			15 uL	1 uL
STD10 280-419367/12 IC		8260B		20 mL	20 mL			5 uL	1 uL
STD5 280-419367/13 IC		8260B		20 mL	20 mL			2.5 uL	1 uL
STD2 280-419367/14 IC		8260B		20 mL	20 mL			1 uL	1 uL
STD1 280-419367/15 IC		8260B		20 mL	20 mL			0.5 uL	1 uL
STD03 280-419367/16 IC		8260B		20 mL	20 mL			0.15 uL	1 uL
ICV 280-419367/17		8260B		20 mL	20 mL				1 uL
STD 280-419367/18 IC		8260B		20 mL	20 mL	0.5 uL			1 uL
STD 280-419367/19 IC		8260B		20 mL	20 mL	1 uL			1 uL
STD 280-419367/20 IC		8260B		20 mL	20 mL	2.5 uL			1 uL
ICIS 280-419367/21		8260B		20 mL	20 mL	5 uL			1 uL
STD 280-419367/22 IC		8260B		20 mL	20 mL	15 uL			1 uL
STD 280-419367/23 IC		8260B		20 mL	20 mL	30 uL			1 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 4



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Freon_A 00009	Freon_B 00008	MV-2cleve+AVA 00036	MV-568718-D 00014
ICV 280-419367/24		8260B		20 mL	20 mL		5 uL		1 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-ARCH SS A 00098	MV-BFB 00026	MV-Gas/Ket A 00074	MV-Gas/Ket B 00043	MV-Main A 00036	MV-Main B 00021
BFB 280-419367/1		8260B			1 uL				
STD60 280-419367/10 IC		8260B				30 uL		30 uL	
STD30 280-419367/11 IC		8260B				15 uL		15 uL	
STD10 280-419367/12 IC		8260B				5 uL		5 uL	
STD5 280-419367/13 IC		8260B				2.5 uL		2.5 uL	
STD2 280-419367/14 IC		8260B				1 uL		1 uL	
STD1 280-419367/15 IC		8260B				0.5 uL		0.5 uL	
STD03 280-419367/16 IC		8260B				0.15 uL		0.15 uL	
ICV 280-419367/17		8260B					5 uL		5 uL
STD 280-419367/18 IC		8260B		0.08 uL					
STD 280-419367/19 IC		8260B		0.16 uL					
STD 280-419367/20 IC		8260B		0.4 uL					
ICIS 280-419367/21		8260B		0.8 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 4



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-ARCH SS A 00098	MV-BFB 00026	MV-Gas/Ket A 00074	MV-Gas/Ket B 00043	MV-Main A 00036	MV-Main B 00021
STD 280-419367/22 IC		8260B		2.4 uL					
STD 280-419367/23 IC		8260B		4.8 uL					
ICV 280-419367/24		8260B		0.8 uL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-SS 2-Cleve 00044	MV-Supp A 00030	MV-Supp B 00020			
BFB 280-419367/1		8260B							
STD60 280-419367/10 IC		8260B							
STD30 280-419367/11 IC		8260B							
STD10 280-419367/12 IC		8260B							
STD5 280-419367/13 IC		8260B							
STD2 280-419367/14 IC		8260B							
STD1 280-419367/15 IC		8260B							
STD03 280-419367/16 IC		8260B							
ICV 280-419367/17		8260B		5 uL					
STD 280-419367/18 IC		8260B			0.5 uL				
STD 280-419367/19 IC		8260B			1 uL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 3 of 4



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 419367 Batch Start Date: 06/20/18 23:30 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-SS 2-Cleve 00044	MV-Supp A 00030	MV-Supp B 00020			
STD 280-419367/20 IC		8260B			2.5 uL				
ICIS 280-419367/21		8260B			5 uL				
STD 280-419367/22 IC		8260B			15 uL				
STD 280-419367/23 IC		8260B			30 uL				
ICV 280-419367/24		8260B				5 uL			

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 420342 Batch Start Date: 06/28/18 08:48 Batch Analyst: Ilczyszyn, Dennis PBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00099	MV-BFB 00026
BFB 280-420342/1		8260B		1 uL	1 uL				1 uL
CCV 280-420342/2		8260B		20 mL	20 mL	5 uL	1 uL	0.76 uL	
CCV 280-420342/3		8260B		20 mL	20 mL		1 uL		
LCS 280-420342/4		8260B		20 mL	20 mL		1 uL	0.76 uL	
MB 280-420342/6		8260B		20 mL	20 mL		1 uL	0.76 uL	
280-111005-B-10	AFDV-154	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-111018-E-5 MS	GW2018-SOL-MW-50 1	8260B	T	20 mL	20 mL		1 uL	0.76 uL	
280-111018-E-5 MSD	GW2018-SOL-MW-50 1	8260B	T	20 mL	20 mL		1 uL	0.76 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00073	MV-Gas/Ket B 00042	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00043	MV-Supp A 00029
BFB 280-420342/1		8260B							
CCV 280-420342/2		8260B		5 uL		5 uL			
CCV 280-420342/3		8260B							5 uL
LCS 280-420342/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-420342/6		8260B							
280-111005-B-10	AFDV-154	8260B	T						
280-111018-E-5 MS	GW2018-SOL-MW-50 1	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-111018-E-5 MSD	GW2018-SOL-MW-50 1	8260B	T		2.5 uL		2.5 uL	2.5 uL	

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 1



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 420464 Batch Start Date: 06/28/18 18:32 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-420464/1		8260B		1 uL	1 uL				1 uL
CCV 280-420464/2		8260B		20 mL	20 mL	5 uL	1 uL	0.96 uL	
CCV 280-420464/3		8260B		20 mL	20 mL		1 uL		
LCS 280-420464/4		8260B		20 mL	20 mL		1 uL	0.96 uL	
MB 280-420464/6		8260B		20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-3	AFDV-136	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-3	AFDV-136	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-3 MS	AFDV-136	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-3 MSD	AFDV-136	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-4	AFDV-137	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-4	AFDV-137	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-5	AFDV-102	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-E-5	AFDV-102	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-C-6	AFDV-135	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-C-6	AFDV-135	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-A-8	AFDV-153	8260B	T	20 mL	20 mL		1 uL	0.96 uL	
280-111005-B-9	AFDV-152	8260B	T	20 mL	20 mL		1 uL	0.96 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00074	MV-Gas/Ket B 00043	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00044	MV-Supp A 00030
BFB 280-420464/1		8260B							
CCV 280-420464/2		8260B		5 uL		5 uL			
CCV 280-420464/3		8260B							5 uL
LCS 280-420464/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-420464/6		8260B							
280-111005-E-3	AFDV-136	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 420464 Batch Start Date: 06/28/18 18:32 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00074	MV-Gas/Ket B 00043	MV-Main A 00036	MV-Main B 00021	MV-SS 2-Cleve 00044	MV-Supp A 00030
280-111005-E-3	AFDV-136	8260B	T						
280-111005-E-3 MS	AFDV-136	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-111005-E-3 MSD	AFDV-136	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-111005-E-4	AFDV-137	8260B	T						
280-111005-E-4	AFDV-137	8260B	T						
280-111005-E-5	AFDV-102	8260B	T						
280-111005-E-5	AFDV-102	8260B	T						
280-111005-C-6	AFDV-135	8260B	T						
280-111005-C-6	AFDV-135	8260B	T						
280-111005-A-8	AFDV-153	8260B	T						
280-111005-B-9	AFDV-152	8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



# GENERAL CHEMISTRY



COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-111005-1

SDG No.: \_\_\_\_\_

Project: THAN Davenport, IA - June 2018

Client Sample ID

AFDV-122

AFDV-112

AFDV-136

AFDV-137

AFDV-102

AFDV-135

AFDV-103

Lab Sample ID

280-111005-1

280-111005-2

280-111005-3

280-111005-4

280-111005-5

280-111005-6

280-111005-7

Comments:



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-122

Lab Sample ID: 280-111005-1

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG ID.:

Matrix: Water

Date Sampled: 06/14/2018 09:40

Reporting Basis: WET

Date Received: 06/15/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	270	150	13	mg/L		B	50	300.0



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-112

Lab Sample ID: 280-111005-2

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG ID.:

Matrix: Water

Date Sampled: 06/14/2018 10:50

Reporting Basis: WET

Date Received: 06/15/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	130	150	13	mg/L	J	B	50	300.0



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-136

Lab Sample ID: 280-111005-3

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG ID.:

Matrix: Water

Date Sampled: 06/14/2018 11:00

Reporting Basis: WET

Date Received: 06/15/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	180	3.0	0.25	mg/L		B	1	300.0
7440-44-0	Total Organic Carbon - Average	6.0	1.0	0.16	mg/L			1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-137  
Lab Name: TestAmerica Denver  
SDG ID.:  
Matrix: Water  
Reporting Basis: WET

Lab Sample ID: 280-111005-4  
Job No.: 280-111005-1  
Date Sampled: 06/14/2018 09:30  
Date Received: 06/15/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	32	3.0	0.25	mg/L		B	1	300.0
7440-44-0	Total Organic Carbon - Average	6.2	1.0	0.16	mg/L			1	9060



Client Sample ID: AFDV-102	Lab Sample ID: 280-111005-5
Lab Name: TestAmerica Denver	Job No.: 280-111005-1
SDG ID.:	
Matrix: Water	Date Sampled: 06/14/2018 09:30
Reporting Basis: WET	Date Received: 06/15/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	12	3.0	0.25	mg/L		B	1	300.0
7440-44-0	Total Organic Carbon - Average	1.4	1.0	0.16	mg/L			1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-135

Lab Sample ID: 280-111005-6

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG ID.:

Matrix: Water

Date Sampled: 06/14/2018 11:45

Reporting Basis: WET

Date Received: 06/15/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	280	15	1.3	mg/L		B	5	300.0
7440-44-0	Total Organic Carbon - Average	23	1.0	0.16	mg/L			1	9060



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-103

Lab Sample ID: 280-111005-7

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG ID.:

Matrix: Water

Date Sampled: 06/14/2018 10:50

Reporting Basis: WET

Date Received: 06/15/2018 08:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	69	30	2.5	mg/L		B	10	300.0



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Analyst: CCJ Batch Start Date: 07/11/2018  
 Reporting Units: mg/L Analytical Batch No.: 421778

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
10	ICV	15:50	Chloride	79.3	80.0	99	90-110		IC CL ICV_00014
11	ICB	16:07	Chloride	0.459				J	
26	CCV	21:02	Chloride	99.2	100	99	90-110		IC LCS_01279
27	CCB	21:20	Chloride	0.456				J	
38	CCV	00:32	Chloride	99.3	100	99	90-110		IC LCS_01279
39	CCB	00:50	Chloride	0.461				J	
49	CCV	03:44	Chloride	99.4	100	99	90-110		IC LCS_01279
50	CCB	04:01	Chloride	0.458				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Analyst: AlD Batch Start Date: 07/06/2018  
 Reporting Units: mg/L Analytical Batch No.: 421458

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	11:09	Total Organic Carbon - Average	19.8	20.0	99	90-110		TOC ICV Std_00035
2	ICB	11:26	Total Organic Carbon - Average	ND					
15	CCV	14:57	Total Organic Carbon - Average	24.3	25.0	97	90-110		TOC LCS Std_00041
16	CCB	15:13	Total Organic Carbon - Average	ND					
27	CCV	18:08	Total Organic Carbon - Average	25.2	25.0	101	90-110		TOC LCS Std_00041
28	CCB	18:24	Total Organic Carbon - Average	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



3-IN  
METHOD BLANK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 421778 Date: 07/11/2018 17:17							
300.0	MB 280-421778/15	Chloride	0.473	J	mg/L	3.0	1
Batch ID: 421458 Date: 07/06/2018 11:57							
9060	MB 280-421458/4	Total Organic Carbon - Average	ND		mg/L	1.0	1



5-IN  
MATRIX SPIKE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 421778 Date: 07/11/2018 23:40											
300.0	280-111840-C-	Chloride	40		mg/L						B
300.0	280-111840-C-	Chloride	68.0		mg/L	25.0	111	80-120			
	1 MS										
Batch ID: 421458 Date: 07/06/2018 13:01											
9060	280-109232-C-	Total Organic Carbon -	14		mg/L						
	7	Average									
9060	280-109232-C-	Total Organic Carbon -	38.4		mg/L	25.0	97	88-112			
	7 MS	Average									

Calculations are performed before rounding to avoid round-off errors in calculated results.



5-IN  
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 421778 Date: 07/11/2018 23:57											
300.0	280-111840-C-	Chloride	68.4		mg/L	25.0	113	80-120	1	20	
1 MSD											
Batch ID: 421458 Date: 07/06/2018 13:17											
9060	280-109232-C-	Total Organic Carbon -	38.7		mg/L	25.0	99	88-112	1	15	
7 MSD Average											

Calculations are performed before rounding to avoid round-off errors in calculated results.



6-IN  
DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 421778 Date: 07/11/2018 23:22								
300.0		280-111840-C-1	Chloride	40	mg/L			
300.0		280-111840-C-1	Chloride	40.2	mg/L	0	15	
DU								

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
LAB CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 421778 Date: 07/11/2018 16:42											
						LCS Source: IC LCS_01279					
300.0	LCS 280-421778/13	Chloride	99.4		mg/L	100	99	90-110	0	10	
Batch ID: 421458 Date: 07/06/2018 11:41											
						LCS Source: TOC LCS Std_00041					
9060	LCS 280-421458/3	Total Organic Carbon - Average	23.7		mg/L	25.0	95	88-112			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
LAB CONTROL SAMPLE DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 421778 Date: 07/11/2018 16:59											
						LCSD Source: IC LCS_01279					
300.0	LCSD 280-421778/14	Chloride	99.4		mg/L	100	99	90-110	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
METHOD REPORTING LIMIT CHECK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
SDG No.: \_\_\_\_\_  
Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 421778 Date: 07/11/2018 16:24											
						LCS Source: IC CAL cl/so4_00207					
300.0	MRL 280-421778/12	Chloride	2.34	J	mg/L	2.50	94	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-111005-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom10

Method: 300.0

MDL Date: 03/23/2010 16:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chloride		3	0.254



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-111005-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom10  
Method: 300.0 XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chloride		3	0.254



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-111005-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_SHI2  
Method: 9060 MDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon - Average		1	0.155



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-111005-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_SHI2

Method: 9060

XMDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon - Average		1	0.155



Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111005-1</u>
SDG No.: _____	
Instrument ID: <u>WC_IonChrom10</u>	Analysis Method: <u>300.0</u>
Start Date: 07/11/2018 13:08	End Date: 07/12/2018 05:11

Page 292 of 303



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom10 Analysis Method: 300.0  
 Start Date: 07/11/2018 13:08 End Date: 07/12/2018 05:11

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -																									
280-111005-7	10	T	03:26	X																									
CCV 280-421778/49	1		03:44	X																									
CCB 280-421778/50	1		04:01	X																									
ZZZZZZ			04:18																										
ZZZZZZ			04:36																										
CCV 280-421778/53			04:53																										
CCB 280-421778/54			05:11																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI2 Analysis Method: 9060  
 Start Date: 07/06/2018 11:09 End Date: 07/06/2018 23:34

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				T O C Q																									
ICV 280-421458/1	1		11:09	X																									
ICB 280-421458/2	1		11:26	X																									
LCS 280-421458/3	1	T	11:41	X																									
MB 280-421458/4	1	T	11:57	X																									
ZZZZZZ			12:14																										
ZZZZZZ			12:28																										
ZZZZZZ			12:45																										
280-109232-C-7 MS	1	T	13:01	X																									
280-109232-C-7 MSD	1	T	13:17	X																									
ZZZZZZ			13:33																										
ZZZZZZ			13:47																										
280-111005-6	1	T	14:06	X																									
280-111005-5	1	T	14:22	X																									
280-111005-4	1	T	14:42	X																									
CCV 280-421458/15	1		14:57	X																									
CCB 280-421458/16	1		15:13	X																									
280-111005-3	1	T	15:30	X																									
ZZZZZZ			15:45																										
ZZZZZZ			15:59																										
ZZZZZZ			16:15																										
ZZZZZZ			16:33																										
ZZZZZZ			16:47																										
ZZZZZZ			17:04																										
ZZZZZZ			17:18																										
ZZZZZZ			17:35																										
ZZZZZZ			17:51																										
CCV 280-421458/27	1		18:08	X																									
CCB 280-421458/28	1		18:24	X																									
ZZZZZZ			18:39																										
ZZZZZZ			18:57																										
ZZZZZZ			19:14																										
ZZZZZZ			19:33																										
ZZZZZZ			19:49																										
ZZZZZZ			20:06																										
ZZZZZZ			20:24																										
ZZZZZZ			20:40																										
ZZZZZZ			20:55																										
ZZZZZZ			21:12																										
CCV 280-421458/39			21:29																										
CCB 280-421458/40			21:44																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111005-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI2 Analysis Method: 9060  
 Start Date: 07/06/2018 11:09 End Date: 07/06/2018 23:34

Lab Sample Id	D/F	T y p e	Time	Analytes																											
				T O C Q																											
ZZZZZZ			22:00																												
ZZZZZZ			22:16																												
ZZZZZZ			22:30																												
ZZZZZZ			22:47																												
ZZZZZZ			23:03																												
CCV 280-421458/46			23:18																												
CCB 280-421458/47			23:34																												

Prep Types: \_\_\_\_\_  
 T = Total/NA



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 421778 Batch Start Date: 07/11/18 13:08 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00207	IC Cal low 00383	IC CL ICV 00014	IC ICV 5 00204
STD1 280-421778/2 IC		300.0		5 mL	5 mL	0.04 mL	0.04 mL		
STD2 280-421778/3 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD3 280-421778/4 IC		300.0		5 mL	5 mL	0.2 mL	0.2 mL		
STD4 280-421778/5 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD5 280-421778/6 IC		300.0		5 mL	5 mL	4.8 mL	1.6 mL		
STD6 280-421778/7 IC		300.0		5 mL	5 mL	8 mL	2 mL		
ICV 280-421778/10		300.0		5 mL	5 mL			0.8 mL	0.8 mL
ICB 280-421778/11		300.0		5 mL	5 mL				
MRL 280-421778/12		300.0		5 mL	5 mL	0.1 mL	0.04 mL		
LCS 280-421778/13		300.0		5 mL	5 mL				
LCSD 280-421778/14		300.0		5 mL	5 mL				
MB 280-421778/15		300.0		5 mL	5 mL				
CCV 280-421778/26		300.0		5 mL	5 mL				
CCB 280-421778/27		300.0		5 mL	5 mL				
280-111840-C-1 DU		300.0	T	5 mL	5 mL				
280-111840-C-1 MS		300.0	T	5 mL	5 mL				
280-111840-C-1 MSD		300.0	T	5 mL	5 mL				
CCV 280-421778/38		300.0		5 mL	5 mL				
CCB 280-421778/39		300.0		5 mL	5 mL				
280-111005-A-1	AFDV-122	300.0	T	5 mL	5 mL				
280-111005-A-2	AFDV-112	300.0	T	5 mL	5 mL				
280-111005-A-3	AFDV-136	300.0	T	5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 3



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 421778 Batch Start Date: 07/11/18 13:08 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00207	IC Cal low 00383	IC CL ICV 00014	IC ICV 5 00204
280-111005-A-4	AFDV-137	300.0	T	5 mL	5 mL				
280-111005-A-5	AFDV-102	300.0	T	5 mL	5 mL				
280-111005-A-6	AFDV-135	300.0	T	5 mL	5 mL				
280-111005-A-7	AFDV-103	300.0	T	5 mL	5 mL				
CCV 280-421778/49		300.0		5 mL	5 mL				
CCB 280-421778/50		300.0		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC LCS 01279	IC SO4 ICV 00017	ICMS/MSD WEEK 00541			
STD1 280-421778/2 IC		300.0							
STD2 280-421778/3 IC		300.0							
STD3 280-421778/4 IC		300.0							
STD4 280-421778/5 IC		300.0							
STD5 280-421778/6 IC		300.0							
STD6 280-421778/7 IC		300.0							
ICV 280-421778/10		300.0			0.8 mL				
ICB 280-421778/11		300.0							
MRL 280-421778/12		300.0							
LCS 280-421778/13		300.0		10 mL					
LCSD 280-421778/14		300.0		10 mL					
MB 280-421778/15		300.0							
CCV 280-421778/26		300.0		10 mL					
CCB 280-421778/27		300.0							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 2 of 3



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 421778 Batch Start Date: 07/11/18 13:08 Batch Analyst: Jewell, Connie CBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC LCS 01279	IC S04 ICV 00017	ICMS/MSD WEEK 00541			
280-111840-C-1 DU		300.0	T						
280-111840-C-1 MS		300.0	T			0.1 mL			
280-111840-C-1 MSD		300.0	T			0.1 mL			
CCV 280-421778/38		300.0		10 mL					
CCB 280-421778/39		300.0							
280-111005-A-1	AFDV-122	300.0	T						
280-111005-A-2	AFDV-112	300.0	T						
280-111005-A-3	AFDV-136	300.0	T						
280-111005-A-4	AFDV-137	300.0	T						
280-111005-A-5	AFDV-102	300.0	T						
280-111005-A-6	AFDV-135	300.0	T						
280-111005-A-7	AFDV-103	300.0	T						
CCV 280-421778/49		300.0		10 mL					
CCB 280-421778/50		300.0							

Batch Notes	
Eluent 1 ID	M18021202
Pipette/Syringe/Dispenser ID	wc5000ccj, wc1000cj, wc200cj
Regeneration Solution ID	C800067
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 3 of 3



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111005-1

SDG No.: \_\_\_\_\_

Batch Number: 421458 Batch Start Date: 07/06/18 11:09 Batch Analyst: Duplin, Alysha 1Batch Method: 9060 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	TOC ICV Std 00035	TOC LCS Std 00041			
ICV 280-421458/1		9060		50 mL	1 mL				
LCS 280-421458/3		9060		200 mL		5 mL			
280-109232-C-7 MS		9060	T	50 mL		1.25 mL			
280-109232-C-7 MSD		9060	T	50 mL		1.25 mL			
CCV 280-421458/15		9060		200 mL		5 mL			
CCV 280-421458/27		9060		200 mL		5 mL			

Batch Notes	
Acid ID	H2SO4_00179 0.2%H2SO4_00301
Combustion Catalyst ID	170001D-01
Pipette/Syringe/Dispenser ID	5000ad

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



# Shipping and Receiving Documents



## TestAmerica Denver

4955 Yarrow Street

Arvada, CO 80002

Phone (303) 736-0100 Fax (303) 431-7171

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler: <u>Jaime Sutton</u>		Lab PM: <u>Jamie Ide, 303-736-0126</u>		Carrier Tracking No(s): <u>FedEx</u>		COC No: <u>2018-7</u>	
Client Contact: <u>Ms. Shannon Olson</u>		Phone: <u>970-531-8623</u>		E-Mail: <u>jamie.ide@testamericainc.com</u>				Page: <u>1</u> of <u>1</u>	
Company: <u>CH2M Hill, Inc.</u>								Job #:	
Address: <u>2020 SW 4th Ave, Suite 300</u>		Due Date Requested: <u>See SOW</u>						Preservation Codes:	
City: <u>Portland</u>		TAT Requested (days): <u>Standard</u>						A - HCL      M - Hexane B - NaOH    N - None C - Zn Acetate    O - AsNaO2 D - Nitric Acid    P - Na2O4S E - NaHSO4      Q - Na2SO3 F - MeOH        R - Na2S2SO3 G - Amchlor     S - H2SO4 H - Ascorbic Acid    T - TSP Dodecahydrate I - Ice            U - Acetone J - DI Water      V - MCAA K - EDTA        W - ph 4-5 L - EDA          Z - other (specify)	
State, Zip: <u>OR, 97201</u>		PO #:						Other:	
Phone: <u>503-736-4111</u>		WO #:							
Email: <u>shannon.olson@ch2m.com</u>		Project #:							
Project Name: <u>THAN DAVENPORT - JUNE 2015 GW</u>		SSOW#:							
Site:									

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	9060 - TOC	300.0 - Nitrate	300.0 - Chloride	300.0 - Sulfate	2320B - Alkalinity	SM4500 - S2_F - Sulfide	RSK-175 - Dissolved Gases (MEE)	3500 - FE_E - Ferrous Iron	Total Number of containers	Special Instructions/Note:
AFDV-122	6/14/18	0940	G	W	N	N				X							Shortholds: Ferrous Iron, Nitrate(NO3) Permagnate
AFDV-112		1050			N	N				X							Permagnate
AFDV-136		1100					X	X	X								
AFDV-137		0930			N	N	X	X	X								
AFDV-102		0930			N	N	X	X	X								
AFDV-135		1145			N	N	X	X	X								
AFDV-103		1050			N	N			X								Permagnate
AFDV-153		1203	TBG	W	N	N	X										Trip Blank

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological	<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Empty Kit Relinquished by: <u>Jaime Sutton</u> Date: <u>6/13/18</u> Time: <u>1300</u>		Method of Shipment:	
Relinquished by: <u>Jaime Sutton</u>	Date/Time: <u>6/13/18 1300</u>	Received by: <u>Reed</u>	Date/Time: <u>6-15-18 0850</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No    Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <u>1.4, 0.56 to 0.0 XFERED BY KO 06-15-18</u>	

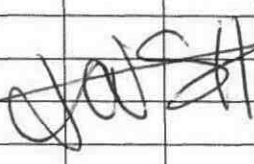


**TestAmerica Denver**

4955 Yarrow Street  
Arvada, CO 80002  
Phone (303) 736-0100 Fax (303) 431-7171

**Chain of Custody Record**
**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Client Contact: Ms. Shannon Olson Company: CH2M Hill, Inc. Address: 2020 SW 4th Ave, Suite 300 City: Portland State, Zip: OR, 97201 Phone: 503-736-4111 Email: shannon.olson@ch2m.com Project Name: THAN DAVENPORT - JUNE 2015 GW Site:		Sampler: <b>Jaime Sutton</b> Phone: <b>970-531-8623</b>	Lab PM: Jamie Ide, 303-736-0126 E-Mail: jamie.ide@testamericainc.com	Carrier Tracking No(s): <b>FedEx</b>	COC No: <b>2015-8</b> Page: Page 1 of 1																								
		<b>Analysis Requested</b>			Job #:  Preservation Codes: A - HCL      M - Hexane B - NaOH      N - None C - Zn Acetate      O - AsNaO2 D - Nitric Acid      P - Na2O4S E - NaHSO4      Q - Na2SO3 F - MeOH      R - Na2S2SO3 G - Amchlor      S - H2SO4 H - Ascorbic Acid      T - TSP Dodecahydrate I - Ice      U - Acetone J - DI Water      V - MCAA K - EDTA      W - ph 4-5 L - EDA      Z - other (specify)																								
Due Date Requested: <b>see SOW</b> TAT Requested (days): <b>Standard</b>		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> <th>8260B - VOCs</th> <th>9060 - TOC</th> <th>300.0 - Nitrate</th> <th>300.0 - Chloride</th> <th>300.0 - Sulfate</th> <th>2320B - Alkalinity</th> <th>SM4500 - S2_F - Sulfide</th> <th>RSK-175 - Dissolved Gases (MEE)</th> <th>3500 - FE_E - Ferrous Iron</th> <th>Total Number of Containers</th> </tr> <tr> <td></td> <td></td> <td>A</td> <td>S</td> <td>N</td> <td>N</td> <td>N</td> <td>N</td> <td>B/C</td> <td>A</td> <td>N</td> <td></td> </tr> </table>			Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	9060 - TOC	300.0 - Nitrate	300.0 - Chloride	300.0 - Sulfate	2320B - Alkalinity	SM4500 - S2_F - Sulfide	RSK-175 - Dissolved Gases (MEE)	3500 - FE_E - Ferrous Iron	Total Number of Containers			A	S	N	N	N	N	B/C	A	N		Other:
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs	9060 - TOC	300.0 - Nitrate	300.0 - Chloride	300.0 - Sulfate	2320B - Alkalinity	SM4500 - S2_F - Sulfide	RSK-175 - Dissolved Gases (MEE)	3500 - FE_E - Ferrous Iron	Total Number of Containers																		
		A	S	N	N	N	N	B/C	A	N																			
<b>Sample Identification</b>		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, Air)	Preservation Code:	Special Instructions/Note:																						
AFDV-152		6/14/18	1202	G	W	NW	Shortholds: Ferrous Iron, Nitrate(NO3)																						
AFDV-154		6/14/18	1204	G	W	NN	IDW Trip Blank																						
																													
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<b>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																							
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:																							
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:																							
Relinquished by: <b>Jas H</b>		Date/Time: <b>6/14/18 1300</b>		Company: <b>JACOBS</b>		Received by: <b>Reed</b>		Date/Time: <b>6-15-18 0850</b>		Company: <b>TA-Den</b>																			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:																			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:		Company:																			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:																									



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-111005-1

**Login Number: 111005**  
**List Number: 1**  
**Creator: Dunlap, Krista M**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Refer to Job Narrative for details.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Job Number: 280-111864-1

Job Description: THAN Davenport, IA - GW (Resample)

For:  
CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201  
Attention: Ms. Shannon Olson



Approved for release.  
Jamie N Ide  
Project Manager I  
7/30/2018 12:22 PM

---

Jamie N Ide, Project Manager I  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0126  
jamie.ide@testamericainc.com  
07/30/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	4
Definitions . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Default Detection Limits . . . . .	9
Surrogate Summary . . . . .	10
QC Sample Results . . . . .	11
QC Association . . . . .	17
Chronicle . . . . .	18
Certification Summary . . . . .	19
Method Summary . . . . .	20
Sample Summary . . . . .	21
Manual Integration Summary . . . . .	22
Reagent Traceability . . . . .	29
Organic Sample Data . . . . .	37
GC/MS VOA . . . . .	37
Method 8260B . . . . .	37
Method 8260B QC Summary . . . . .	38
Method 8260B Sample Data . . . . .	59
Standards Data . . . . .	63
Method 8260B ICAL Data . . . . .	63
Method 8260B CCAL Data . . . . .	91
Raw QC Data . . . . .	111
Method 8260B Blank Data . . . . .	111



# Table of Contents

Method 8260B LCS/LCSD Data . . . . .	113
Method 8260B MS/MSD Data . . . . .	115
Method 8260B Run Logs . . . . .	119
Method 8260B Prep Data . . . . .	159
Shipping and Receiving Documents . . . . .	171
Client Chain of Custody . . . . .	172
Sample Receipt Checklist . . . . .	173



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



**CASE NARRATIVE**  
**Client: CH2M Hill, Inc.**  
**Project: THAN Davenport, IA - GW (Resample)**  
**Report Number: 280-111864-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 7/12/2018 8:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

1 of 3 HCl preserved VOA Vials requesting 8260B VOCs analysis for sample AFDV-228 (280-111864-1) was received with a headspace bubble >6mm in diameter. Sufficient volume remains for analysis without headspace unless instructed otherwise by the client. The client was notified on 7/13/18.

2 of 3 HCl preserved VOA Vials requesting 8260B VOCs analysis for sample AFDV-229 (280-111864-2) were received with a headspace bubble >6mm in diameter. Sufficient volume remains for analysis without headspace unless instructed otherwise by the client. The client was notified on 7/13/18.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples AFDV-228 (280-111864-1) and AFDV-229 (280-111864-2) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 07/18/2018 and 07/19/2018.

Samples AFDV-228 (280-111864-1)[100X], AFDV-228 (280-111864-1)[2000X], AFDV-229 (280-111864-2)[200X] and AFDV-229 (280-111864-2)[2000X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

Client Sample ID: AFDV-228

Lab Sample ID: 280-111864-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	9500	E	100	16	ug/L	100		8260B	Total/NA
1,1-Dichloroethane	8600	E	100	22	ug/L	100		8260B	Total/NA
1,1-Dichloroethene	1000		100	23	ug/L	100		8260B	Total/NA
1,2-Dichloroethane	23	J	100	13	ug/L	100		8260B	Total/NA
Acetone	450	J	1000	190	ug/L	100		8260B	Total/NA
Benzene	59	J	100	16	ug/L	100		8260B	Total/NA
cis-1,2-Dichloroethene	43000	E	100	15	ug/L	100		8260B	Total/NA
Ethylbenzene	3900	E	100	16	ug/L	100		8260B	Total/NA
m-Xylene & p-Xylene	8000	E	200	34	ug/L	100		8260B	Total/NA
o-Xylene	4000		100	19	ug/L	100		8260B	Total/NA
Toluene	8400	E	100	17	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	86	J	100	15	ug/L	100		8260B	Total/NA
Vinyl chloride	14000	E	100	10	ug/L	100		8260B	Total/NA
Xylenes, Total	12000		200	19	ug/L	100		8260B	Total/NA
1,1,1-Trichloroethane - DL	10000		2000	320	ug/L	2000		8260B	Total/NA
1,1-Dichloroethane - DL	12000		2000	440	ug/L	2000		8260B	Total/NA
cis-1,2-Dichloroethene - DL	110000		2000	300	ug/L	2000		8260B	Total/NA
Ethylbenzene - DL	3900		2000	320	ug/L	2000		8260B	Total/NA
m-Xylene & p-Xylene - DL	12000		4000	680	ug/L	2000		8260B	Total/NA
o-Xylene - DL	3800		2000	380	ug/L	2000		8260B	Total/NA
Toluene - DL	35000		2000	340	ug/L	2000		8260B	Total/NA
Vinyl chloride - DL	22000		2000	200	ug/L	2000		8260B	Total/NA
Xylenes, Total - DL	16000		4000	380	ug/L	2000		8260B	Total/NA

Client Sample ID: AFDV-229

Lab Sample ID: 280-111864-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	9600		200	32	ug/L	200		8260B	Total/NA
1,1-Dichloroethane	10000		200	44	ug/L	200		8260B	Total/NA
1,1-Dichloroethene	1100		200	46	ug/L	200		8260B	Total/NA
Benzene	61	J	200	32	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene	61000	E	200	30	ug/L	200		8260B	Total/NA
Ethylbenzene	4400		200	32	ug/L	200		8260B	Total/NA
m-Xylene & p-Xylene	11000		400	68	ug/L	200		8260B	Total/NA
o-Xylene	4500		200	38	ug/L	200		8260B	Total/NA
Styrene	180	J	200	34	ug/L	200		8260B	Total/NA
Toluene	15000	E	200	34	ug/L	200		8260B	Total/NA
trans-1,2-Dichloroethene	100	J	200	30	ug/L	200		8260B	Total/NA
Vinyl chloride	19000	E	200	20	ug/L	200		8260B	Total/NA
Xylenes, Total	16000		400	38	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene - DL	100000		2000	300	ug/L	2000		8260B	Total/NA
Toluene - DL	36000		2000	340	ug/L	2000		8260B	Total/NA
Vinyl chloride - DL	22000		2000	200	ug/L	2000		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

**Client Sample ID: AFDV-228**

**Date Collected: 07/10/18 15:55**

**Date Received: 07/12/18 08:55**

**Lab Sample ID: 280-111864-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	9500	E	100	16	ug/L	—		07/18/18 19:51	100
1,1-Dichloroethane	8600	E	100	22	ug/L			07/18/18 19:51	100
1,1-Dichloroethene	1000		100	23	ug/L			07/18/18 19:51	100
1,2-Dichloroethane	23	J	100	13	ug/L			07/18/18 19:51	100
Methyl ethyl ketone (MEK)	ND		600	200	ug/L			07/18/18 19:51	100
Acetone	450	J	1000	190	ug/L			07/18/18 19:51	100
Benzene	59	J	100	16	ug/L			07/18/18 19:51	100
Chloroethane	ND		200	41	ug/L			07/18/18 19:51	100
cis-1,2-Dichloroethene	43000	E	100	15	ug/L			07/18/18 19:51	100
Ethylbenzene	3900	E	100	16	ug/L			07/18/18 19:51	100
Methylene Chloride	ND		200	32	ug/L			07/18/18 19:51	100
m-Xylene & p-Xylene	8000	E	200	34	ug/L			07/18/18 19:51	100
o-Xylene	4000		100	19	ug/L			07/18/18 19:51	100
Styrene	ND		100	17	ug/L			07/18/18 19:51	100
Tetrachloroethene	ND		100	20	ug/L			07/18/18 19:51	100
Toluene	8400	E	100	17	ug/L			07/18/18 19:51	100
trans-1,2-Dichloroethene	86	J	100	15	ug/L			07/18/18 19:51	100
Trichloroethene	ND		100	16	ug/L			07/18/18 19:51	100
Vinyl chloride	14000	E	100	10	ug/L			07/18/18 19:51	100
Xylenes, Total	12000		200	19	ug/L			07/18/18 19:51	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		70 - 127		07/18/18 19:51	100
4-Bromofluorobenzene (Surr)	98		78 - 120		07/18/18 19:51	100
Dibromofluoromethane (Surr)	96		77 - 120		07/18/18 19:51	100
Toluene-d8 (Surr)	91		80 - 125		07/18/18 19:51	100

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	10000		2000	320	ug/L	—		07/19/18 15:20	2000
1,1-Dichloroethane	12000		2000	440	ug/L			07/19/18 15:20	2000
cis-1,2-Dichloroethene	110000		2000	300	ug/L			07/19/18 15:20	2000
Ethylbenzene	3900		2000	320	ug/L			07/19/18 15:20	2000
m-Xylene & p-Xylene	12000		4000	680	ug/L			07/19/18 15:20	2000
o-Xylene	3800		2000	380	ug/L			07/19/18 15:20	2000
Toluene	35000		2000	340	ug/L			07/19/18 15:20	2000
Vinyl chloride	22000		2000	200	ug/L			07/19/18 15:20	2000
Xylenes, Total	16000		4000	380	ug/L			07/19/18 15:20	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 127		07/19/18 15:20	2000
4-Bromofluorobenzene (Surr)	107		78 - 120		07/19/18 15:20	2000
Dibromofluoromethane (Surr)	93		77 - 120		07/19/18 15:20	2000
Toluene-d8 (Surr)	99		80 - 125		07/19/18 15:20	2000

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

**Client Sample ID: AFDV-229**

**Lab Sample ID: 280-111864-2**

**Date Collected: 07/10/18 16:00**

**Matrix: Water**

**Date Received: 07/12/18 08:55**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	9600		200	32	ug/L			07/18/18 20:36	200
1,1-Dichloroethane	10000		200	44	ug/L			07/18/18 20:36	200
1,1-Dichloroethene	1100		200	46	ug/L			07/18/18 20:36	200
1,2-Dichloroethane	ND		200	26	ug/L			07/18/18 20:36	200
Methyl ethyl ketone (MEK)	ND		1200	400	ug/L			07/18/18 20:36	200
Acetone	ND		2000	380	ug/L			07/18/18 20:36	200
Benzene	61	J	200	32	ug/L			07/18/18 20:36	200
Chloroethane	ND		400	82	ug/L			07/18/18 20:36	200
cis-1,2-Dichloroethene	61000	E	200	30	ug/L			07/18/18 20:36	200
Ethylbenzene	4400		200	32	ug/L			07/18/18 20:36	200
Methylene Chloride	ND		400	64	ug/L			07/18/18 20:36	200
m-Xylene & p-Xylene	11000		400	68	ug/L			07/18/18 20:36	200
o-Xylene	4500		200	38	ug/L			07/18/18 20:36	200
Styrene	180	J	200	34	ug/L			07/18/18 20:36	200
Tetrachloroethene	ND		200	40	ug/L			07/18/18 20:36	200
Toluene	15000	E	200	34	ug/L			07/18/18 20:36	200
trans-1,2-Dichloroethene	100	J	200	30	ug/L			07/18/18 20:36	200
Trichloroethene	ND		200	32	ug/L			07/18/18 20:36	200
Vinyl chloride	19000	E	200	20	ug/L			07/18/18 20:36	200
Xylenes, Total	16000		400	38	ug/L			07/18/18 20:36	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 127		07/18/18 20:36	200
4-Bromofluorobenzene (Surr)	94		78 - 120		07/18/18 20:36	200
Dibromofluoromethane (Surr)	95		77 - 120		07/18/18 20:36	200
Toluene-d8 (Surr)	89		80 - 125		07/18/18 20:36	200

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	100000		2000	300	ug/L			07/19/18 15:38	2000
Toluene	36000		2000	340	ug/L			07/19/18 15:38	2000
Vinyl chloride	22000		2000	200	ug/L			07/19/18 15:38	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 127		07/19/18 15:38	2000
4-Bromofluorobenzene (Surr)	107		78 - 120		07/19/18 15:38	2000
Dibromofluoromethane (Surr)	92		77 - 120		07/19/18 15:38	2000
Toluene-d8 (Surr)	100		80 - 125		07/19/18 15:38	2000



## Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	RL	MDL	Units	Method
1,1,1-Trichloroethane	1.0	0.16	ug/L	8260B
1,1-Dichloroethane	1.0	0.22	ug/L	8260B
1,1-Dichloroethene	1.0	0.23	ug/L	8260B
1,2-Dichloroethane	1.0	0.13	ug/L	8260B
Acetone	10	1.9	ug/L	8260B
Benzene	1.0	0.16	ug/L	8260B
Chloroethane	2.0	0.41	ug/L	8260B
cis-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Ethylbenzene	1.0	0.16	ug/L	8260B
Methyl ethyl ketone (MEK)	6.0	2.0	ug/L	8260B
Methylene Chloride	2.0	0.32	ug/L	8260B
m-Xylene & p-Xylene	2.0	0.34	ug/L	8260B
o-Xylene	1.0	0.19	ug/L	8260B
Styrene	1.0	0.17	ug/L	8260B
Tetrachloroethene	1.0	0.20	ug/L	8260B
Toluene	1.0	0.17	ug/L	8260B
trans-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Trichloroethene	1.0	0.16	ug/L	8260B
Vinyl chloride	1.0	0.10	ug/L	8260B
Xylenes, Total	2.0	0.19	ug/L	8260B



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
280-111749-E-1 MS	Matrix Spike	91	107	93	99
280-111749-E-1 MSD	Matrix Spike Duplicate	94	107	92	99
280-111864-1	AFDV-228	83	98	96	91
280-111864-1 - DL	AFDV-228	90	107	93	99
280-111864-2	AFDV-229	80	94	95	89
280-111864-2 - DL	AFDV-229	90	107	92	100
280-111985-E-4 MS	Matrix Spike	79	100	93	95
280-111985-E-4 MSD	Matrix Spike Duplicate	81	97	95	96
LCS 280-422639/6	Lab Control Sample	75	102	90	95
LCS 280-422809/4	Lab Control Sample	91	107	91	102
MB 280-422639/8	Method Blank	80	98	98	97
MB 280-422809/8	Method Blank	87	108	89	101

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-422639/8

Matrix: Water

Analysis Batch: 422639

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/18/18 11:46	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/18/18 11:46	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/18/18 11:46	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/18/18 11:46	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/18/18 11:46	1
Acetone	ND		10	1.9	ug/L			07/18/18 11:46	1
Benzene	ND		1.0	0.16	ug/L			07/18/18 11:46	1
Chloroethane	ND		2.0	0.41	ug/L			07/18/18 11:46	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/18/18 11:46	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/18/18 11:46	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/18/18 11:46	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/18/18 11:46	1
o-Xylene	ND		1.0	0.19	ug/L			07/18/18 11:46	1
Styrene	ND		1.0	0.17	ug/L			07/18/18 11:46	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/18/18 11:46	1
Toluene	ND		1.0	0.17	ug/L			07/18/18 11:46	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/18/18 11:46	1
Trichloroethene	ND		1.0	0.16	ug/L			07/18/18 11:46	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/18/18 11:46	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/18/18 11:46	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 127					07/18/18 11:46	1
4-Bromofluorobenzene (Surr)	98		78 - 120					07/18/18 11:46	1
Dibromofluoromethane (Surr)	98		77 - 120					07/18/18 11:46	1
Toluene-d8 (Surr)	97		80 - 125					07/18/18 11:46	1

Lab Sample ID: LCS 280-422639/6

Matrix: Water

Analysis Batch: 422639

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	4.39		ug/L		88	65 - 135
1,1-Dichloroethane	5.00	4.04		ug/L		81	65 - 135
1,1-Dichloroethene	5.00	4.08		ug/L		82	65 - 136
1,2-Dichloroethane	5.00	4.12		ug/L		82	65 - 135
Methyl ethyl ketone (MEK)	20.0	12.6		ug/L		63	44 - 177
Acetone	20.0	12.9		ug/L		64	39 - 156
Benzene	5.00	4.54		ug/L		91	65 - 135
Chloroethane	5.00	3.63		ug/L		73	46 - 136
cis-1,2-Dichloroethene	5.00	4.84		ug/L		97	65 - 135
Ethylbenzene	5.00	5.53		ug/L		111	65 - 135
Methylene Chloride	5.00	4.06		ug/L		81	54 - 141
m-Xylene & p-Xylene	5.00	5.54		ug/L		111	65 - 135
o-Xylene	5.00	5.85		ug/L		117	65 - 135
Styrene	5.00	5.52		ug/L		110	65 - 135
Tetrachloroethene	5.00	5.60		ug/L		112	65 - 135
Toluene	5.00	5.04		ug/L		101	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-422639/6

Matrix: Water

Analysis Batch: 422639

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	4.48		ug/L		90	65 - 135
Trichloroethene	5.00	4.63		ug/L		93	65 - 135
Vinyl chloride	5.00	3.69		ug/L		74	40 - 137
Xylenes, Total	10.0	11.4		ug/L		114	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	75		70 - 127
4-Bromofluorobenzene (Surr)	102		78 - 120
Dibromofluoromethane (Surr)	90		77 - 120
Toluene-d8 (Surr)	95		80 - 125

Lab Sample ID: 280-111985-E-4 MS

Matrix: Water

Analysis Batch: 422639

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	4.62		ug/L		92	65 - 135
1,1-Dichloroethane	ND		5.00	4.08		ug/L		82	65 - 135
1,1-Dichloroethene	ND		5.00	4.22		ug/L		84	65 - 136
1,2-Dichloroethane	ND		5.00	4.20		ug/L		84	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	12.7		ug/L		63	44 - 177
Acetone	ND		20.0	11.9		ug/L		59	39 - 156
Benzene	ND		5.00	4.67		ug/L		93	65 - 135
Chloroethane	ND		5.00	3.49		ug/L		70	46 - 136
cis-1,2-Dichloroethene	ND		5.00	4.82		ug/L		96	65 - 135
Ethylbenzene	ND		5.00	5.59		ug/L		112	65 - 135
Methylene Chloride	ND		5.00	4.14		ug/L		83	54 - 141
m-Xylene & p-Xylene	ND		5.00	5.35		ug/L		107	65 - 135
o-Xylene	ND		5.00	5.97		ug/L		119	65 - 135
Styrene	ND		5.00	5.49		ug/L		110	65 - 135
Tetrachloroethene	ND		5.00	5.48		ug/L		110	65 - 135
Toluene	ND		5.00	5.12		ug/L		102	65 - 135
trans-1,2-Dichloroethene	ND		5.00	4.65		ug/L		93	65 - 135
Trichloroethene	ND		5.00	4.72		ug/L		94	65 - 135
Vinyl chloride	ND		5.00	3.16		ug/L		63	40 - 137
Xylenes, Total	ND		10.0	11.3		ug/L		113	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		70 - 127
4-Bromofluorobenzene (Surr)	100		78 - 120
Dibromofluoromethane (Surr)	93		77 - 120
Toluene-d8 (Surr)	95		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111985-E-4 MSD

Matrix: Water

Analysis Batch: 422639

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	4.46		ug/L		89	65 - 135	3	20
1,1-Dichloroethane	ND		5.00	3.91		ug/L		78	65 - 135	4	21
1,1-Dichloroethene	ND		5.00	4.27		ug/L		85	65 - 136	1	20
1,2-Dichloroethane	ND		5.00	3.92		ug/L		78	65 - 135	7	20
Methyl ethyl ketone (MEK)	ND		20.0	13.1		ug/L		66	44 - 177	4	32
Acetone	ND		20.0	13.2		ug/L		66	39 - 156	10	23
Benzene	ND		5.00	4.32		ug/L		86	65 - 135	8	20
Chloroethane	ND		5.00	3.82		ug/L		76	46 - 136	9	25
cis-1,2-Dichloroethene	ND		5.00	4.54		ug/L		91	65 - 135	6	20
Ethylbenzene	ND		5.00	4.89		ug/L		98	65 - 135	13	20
Methylene Chloride	ND		5.00	4.03		ug/L		81	54 - 141	3	26
m-Xylene & p-Xylene	ND		5.00	4.89		ug/L		98	65 - 135	9	20
o-Xylene	ND		5.00	5.29		ug/L		106	65 - 135	12	20
Styrene	ND		5.00	4.88		ug/L		98	65 - 135	12	26
Tetrachloroethene	ND		5.00	4.95		ug/L		99	65 - 135	10	20
Toluene	ND		5.00	4.82		ug/L		96	65 - 135	6	20
trans-1,2-Dichloroethene	ND		5.00	4.49		ug/L		90	65 - 135	3	24
Trichloroethene	ND		5.00	4.24		ug/L		85	65 - 135	11	20
Vinyl chloride	ND		5.00	3.65		ug/L		73	40 - 137	15	24
Xylenes, Total	ND		10.0	10.2		ug/L		102	65 - 135	11	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	81		70 - 127								
4-Bromofluorobenzene (Surr)	97		78 - 120								
Dibromofluoromethane (Surr)	95		77 - 120								
Toluene-d8 (Surr)	96		80 - 125								

Lab Sample ID: MB 280-422809/8

Matrix: Water

Analysis Batch: 422809

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/19/18 13:27	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/19/18 13:27	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/19/18 13:27	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/19/18 13:27	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/19/18 13:27	1
Acetone	ND		10	1.9	ug/L			07/19/18 13:27	1
Benzene	ND		1.0	0.16	ug/L			07/19/18 13:27	1
Chloroethane	ND		2.0	0.41	ug/L			07/19/18 13:27	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/19/18 13:27	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/19/18 13:27	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/19/18 13:27	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/19/18 13:27	1
o-Xylene	ND		1.0	0.19	ug/L			07/19/18 13:27	1
Styrene	ND		1.0	0.17	ug/L			07/19/18 13:27	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/19/18 13:27	1
Toluene	ND		1.0	0.17	ug/L			07/19/18 13:27	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-422809/8

Matrix: Water

Analysis Batch: 422809

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/19/18 13:27	1
Trichloroethene	ND		1.0	0.16	ug/L			07/19/18 13:27	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/19/18 13:27	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/19/18 13:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 127		07/19/18 13:27	1
4-Bromofluorobenzene (Surr)	108		78 - 120		07/19/18 13:27	1
Dibromofluoromethane (Surr)	89		77 - 120		07/19/18 13:27	1
Toluene-d8 (Surr)	101		80 - 125		07/19/18 13:27	1

Lab Sample ID: LCS 280-422809/4

Matrix: Water

Analysis Batch: 422809

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.25		ug/L		105	65 - 135
1,1-Dichloroethane	5.00	5.31		ug/L		106	65 - 135
1,1-Dichloroethene	5.00	5.48		ug/L		110	65 - 136
1,2-Dichloroethane	5.00	5.25		ug/L		105	65 - 135
Methyl ethyl ketone (MEK)	20.0	21.2		ug/L		106	44 - 177
Acetone	20.0	21.7		ug/L		109	39 - 156
Benzene	5.00	5.36		ug/L		107	65 - 135
Chloroethane	5.00	4.98		ug/L		100	46 - 136
cis-1,2-Dichloroethene	5.00	5.44		ug/L		109	65 - 135
Ethylbenzene	5.00	5.47		ug/L		109	65 - 135
Methylene Chloride	5.00	5.23		ug/L		105	54 - 141
m-Xylene & p-Xylene	5.00	5.45		ug/L		109	65 - 135
o-Xylene	5.00	5.76		ug/L		115	65 - 135
Styrene	5.00	5.38		ug/L		108	65 - 135
Tetrachloroethene	5.00	5.40		ug/L		108	65 - 135
Toluene	5.00	5.28		ug/L		106	65 - 135
trans-1,2-Dichloroethene	5.00	5.44		ug/L		109	65 - 135
Trichloroethene	5.00	5.34		ug/L		107	65 - 135
Vinyl chloride	5.00	4.66		ug/L		93	40 - 137
Xylenes, Total	10.0	11.2		ug/L		112	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 127
4-Bromofluorobenzene (Surr)	107		78 - 120
Dibromofluoromethane (Surr)	91		77 - 120
Toluene-d8 (Surr)	102		80 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111749-E-1 MS

Matrix: Water

Analysis Batch: 422809

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	4.81		ug/L		96	65 - 135
1,1-Dichloroethane	ND		5.00	5.03		ug/L		101	65 - 135
1,1-Dichloroethene	ND		5.00	5.08		ug/L		102	65 - 136
1,2-Dichloroethane	ND		5.00	5.11		ug/L		102	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	21.6		ug/L		108	44 - 177
Acetone	ND		20.0	23.0		ug/L		115	39 - 156
Benzene	ND		5.00	4.90		ug/L		98	65 - 135
Chloroethane	ND		5.00	4.94		ug/L		99	46 - 136
cis-1,2-Dichloroethene	ND		5.00	5.04		ug/L		101	65 - 135
Ethylbenzene	ND		5.00	4.30		ug/L		86	65 - 135
Methylene Chloride	ND		5.00	4.73		ug/L		95	54 - 141
m-Xylene & p-Xylene	ND		5.00	4.32		ug/L		86	65 - 135
o-Xylene	ND		5.00	4.61		ug/L		92	65 - 135
Styrene	ND		5.00	3.48		ug/L		70	65 - 135
Tetrachloroethene	ND		5.00	4.22		ug/L		84	65 - 135
Toluene	ND		5.00	4.80		ug/L		96	65 - 135
trans-1,2-Dichloroethene	ND		5.00	5.04		ug/L		101	65 - 135
Trichloroethene	ND		5.00	4.66		ug/L		93	65 - 135
Vinyl chloride	ND		5.00	4.69		ug/L		94	40 - 137
Xylenes, Total	ND		10.0	8.93		ug/L		89	65 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	91		70 - 127						
4-Bromofluorobenzene (Surr)	107		78 - 120						
Dibromofluoromethane (Surr)	93		77 - 120						
Toluene-d8 (Surr)	99		80 - 125						

Lab Sample ID: 280-111749-E-1 MSD

Matrix: Water

Analysis Batch: 422809

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	4.68		ug/L		94	65 - 135	3	20
1,1-Dichloroethane	ND		5.00	4.83		ug/L		97	65 - 135	4	21
1,1-Dichloroethene	ND		5.00	4.98		ug/L		100	65 - 136	2	20
1,2-Dichloroethane	ND		5.00	5.04		ug/L		101	65 - 135	1	20
Methyl ethyl ketone (MEK)	ND		20.0	21.7		ug/L		109	44 - 177	1	32
Acetone	ND		20.0	24.0		ug/L		120	39 - 156	4	23
Benzene	ND		5.00	4.74		ug/L		95	65 - 135	3	20
Chloroethane	ND		5.00	5.12		ug/L		102	46 - 136	4	25
cis-1,2-Dichloroethene	ND		5.00	4.88		ug/L		98	65 - 135	3	20
Ethylbenzene	ND		5.00	4.01		ug/L		80	65 - 135	7	20
Methylene Chloride	ND		5.00	4.65		ug/L		93	54 - 141	2	26
m-Xylene & p-Xylene	ND		5.00	4.01		ug/L		80	65 - 135	8	20
o-Xylene	ND		5.00	4.38		ug/L		88	65 - 135	5	20
Styrene	ND		5.00	4.19		ug/L		84	65 - 135	18	26
Tetrachloroethene	ND		5.00	3.94		ug/L		79	65 - 135	7	20
Toluene	ND		5.00	4.54		ug/L		91	65 - 135	6	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111749-E-1 MSD

Matrix: Water

Analysis Batch: 422809

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	ND		5.00	4.83		ug/L		97	65 - 135	4	24
Trichloroethene	ND		5.00	4.46		ug/L		89	65 - 135	4	20
Vinyl chloride	ND		5.00	4.78		ug/L		96	40 - 137	2	24
Xylenes, Total	ND		10.0	8.39		ug/L		84	65 - 135	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 127
4-Bromofluorobenzene (Surr)	107		78 - 120
Dibromofluoromethane (Surr)	92		77 - 120
Toluene-d8 (Surr)	99		80 - 125



## QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

### GC/MS VOA

#### Analysis Batch: 422639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111864-1	AFDV-228	Total/NA	Water	8260B	
280-111864-2	AFDV-229	Total/NA	Water	8260B	
MB 280-422639/8	Method Blank	Total/NA	Water	8260B	
LCS 280-422639/6	Lab Control Sample	Total/NA	Water	8260B	
280-111985-E-4 MS	Matrix Spike	Total/NA	Water	8260B	
280-111985-E-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

#### Analysis Batch: 422809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111864-1 - DL	AFDV-228	Total/NA	Water	8260B	
280-111864-2 - DL	AFDV-229	Total/NA	Water	8260B	
MB 280-422809/8	Method Blank	Total/NA	Water	8260B	
LCS 280-422809/4	Lab Control Sample	Total/NA	Water	8260B	
280-111749-E-1 MS	Matrix Spike	Total/NA	Water	8260B	
280-111749-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

**Client Sample ID: AFDV-228**

**Date Collected: 07/10/18 15:55**

**Date Received: 07/12/18 08:55**

**Lab Sample ID: 280-111864-1**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	2000	20 mL	20 mL	422809	07/19/18 15:20	JLS	TAL DEN
Total/NA	Analysis	8260B		100	20 mL	20 mL	422639	07/18/18 19:51	JLS	TAL DEN

**Client Sample ID: AFDV-229**

**Date Collected: 07/10/18 16:00**

**Date Received: 07/12/18 08:55**

**Lab Sample ID: 280-111864-2**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	2000	20 mL	20 mL	422809	07/19/18 15:38	JLS	TAL DEN
Total/NA	Analysis	8260B		200	20 mL	20 mL	422639	07/18/18 20:36	JLS	TAL DEN

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - GW (Resample)

TestAmerica Job ID: 280-111864-1

## Laboratory: TestAmerica Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E87667	06-30-19
Iowa	State Program	7	370	12-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte	
8260B		Water	1,1,1-Trichloroethane	
8260B		Water	1,1-Dichloroethane	
8260B		Water	1,1-Dichloroethene	
8260B		Water	1,2-Dichloroethane	
8260B		Water	Acetone	
8260B		Water	Benzene	
8260B		Water	Chloroethane	
8260B		Water	cis-1,2-Dichloroethene	
8260B		Water	Ethylbenzene	
8260B		Water	Methyl ethyl ketone (MEK)	
8260B		Water	Methylene Chloride	
8260B		Water	m-Xylene & p-Xylene	
8260B		Water	o-Xylene	
8260B		Water	Styrene	
8260B		Water	Tetrachloroethene	
8260B		Water	Toluene	
8260B		Water	trans-1,2-Dichloroethene	
8260B		Water	Trichloroethene	
8260B		Water	Vinyl chloride	
8260B		Water	Xylenes, Total	
Oregon	NELAP	10	4025	01-08-19



## Method Summary

Client: CH2M Hill, Inc.

TestAmerica Job ID: 280-111864-1

Project/Site: THAN Davenport, IA - GW (Resample)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



## Sample Summary

Client: CH2M Hill, Inc.

TestAmerica Job ID: 280-111864-1

Project/Site: THAN Davenport, IA - GW (Resample)

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-111864-1	AFDV-228	Water	07/10/18 15:55	07/12/18 08:55
280-111864-2	AFDV-229	Water	07/10/18 16:00	07/12/18 08:55



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P Analysis Batch Number: 419732Lab Sample ID: STD010 280-419732/20 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/23/18 15:11 Lab File ID: P7468.D GC Column: DB-624 (60.25 ID: 0.25 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
n-Butanol		Invalid Compound ID	seifertj	06/26/18 07:22



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P Analysis Batch Number: 422809Lab Sample ID: STD003 280-422809/57 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 10:37 Lab File ID: P7947.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane	7.37	Assign Peak	seifertj	07/19/18 12:55
Isobutyl alcohol		Invalid Compound ID	seifertj	07/19/18 12:55

Lab Sample ID: STD010 280-422809/58 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 10:55 Lab File ID: P7948.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl ethyl ketone (MEK)	6.63	Split Peak	seifertj	07/19/18 12:56
Isobutyl alcohol	7.09	Wrong peak	seifertj	07/19/18 12:57
trans-1,4-Dichloro-2-butene	10.79	Assign Peak	seifertj	07/19/18 12:57

Lab Sample ID: STD020 280-422809/59 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 11:14 Lab File ID: P7949.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isobutyl alcohol	7.09	Wrong peak	seifertj	07/19/18 12:58



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 419807Lab Sample ID: STD010 280-419807/19 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 12:56 Lab File ID: Q5010.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propionitrile	7.04	Split Peak	seifertj	06/26/18 15:05

Lab Sample ID: STD020 280-419807/20 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 13:19 Lab File ID: Q5011.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propionitrile	6.97	Split Peak	seifertj	06/26/18 15:01

Lab Sample ID: ICV 280-419807/25 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 15:59 Lab File ID: Q5018.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetonitrile		Invalid Compound ID	seifertj	06/26/18 14:40
n-Butanol		Invalid Compound ID	ilczyszyn d	06/26/18 08:08



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 422015Lab Sample ID: STD003 280-422015/12 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 13:55 Lab File ID: Q5624.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrolein		Invalid Compound ID	seifertj	07/16/18 07:26
Acrylonitrile		Invalid Compound ID	seifertj	07/16/18 07:26
Carbon disulfide		Invalid Compound ID	seifertj	07/16/18 07:26
Dichlorofluoromethane		Invalid Compound ID	seifertj	07/16/18 07:25
Isobutyl alcohol		Invalid Compound ID	seifertj	07/16/18 07:26
sec-Butyl Alcohol		Invalid Compound ID	seifertj	07/16/18 07:26

Lab Sample ID: STD010 280-422015/13 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 14:17 Lab File ID: Q5625.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.91	Split Peak	seifertj	07/16/18 07:27
sec-Butyl Alcohol	6.93	Wrong peak	seifertj	07/16/18 07:28
Isobutyl alcohol		Invalid Compound ID	seifertj	07/16/18 07:28

Lab Sample ID: STD020 280-422015/14 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 14:39 Lab File ID: Q5626.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.91	Split Peak	seifertj	07/16/18 07:29

Lab Sample ID: STD050 280-422015/15 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 15:02 Lab File ID: Q5627.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.91	Split Peak	seifertj	07/16/18 07:30



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 422015Lab Sample ID: STD10 280-422015/16 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 15:41 Lab File ID: Q5628.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 07:31

Lab Sample ID: STD30 280-422015/17 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 16:03 Lab File ID: Q5629.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 07:31

Lab Sample ID: STD60 280-422015/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 16:26 Lab File ID: Q5630.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 07:32
m-Xylene & p-Xylene	10.16	Wrong peak	seifertj	07/16/18 07:33



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 422281Lab Sample ID: ICV 280-422281/12 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/16/18 09:45 Lab File ID: Q5637.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 10:19



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 422639Lab Sample ID: CCV 280-422639/2 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/18/18 09:41 Lab File ID: Q5759.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/18/18 11:56

Lab Sample ID: 280-111864-1 Client Sample ID: AFDV-228Date Analyzed: 07/18/18 19:51 Lab File ID: Q5785.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Styrene		Invalid Compound ID	seifertj	07/19/18 11:54
Ethylbenzene	10.09	Wrong peak	seifertj	07/19/18 11:54

Lab Sample ID: 280-111864-2 Client Sample ID: AFDV-229Date Analyzed: 07/18/18 20:36 Lab File ID: Q5787.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane		Invalid Compound ID	seifertj	07/19/18 11:55



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>MV-2c1eve+AVA_00036</b>	08/31/18	06/01/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00021	202.5 uL	Acrolein	399.938 ug/mL
					MV-569723_00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL
					MV-569724_00015	160 uL	Vinyl acetate	80 ug/mL
.MV-568720_00021	08/31/18		RESTEK, Lot A0135693		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569723_00003	01/31/20		RESTEK, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00015	08/31/18		RESTEK, Lot A0135506		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
<b>MV-568718-D_00008</b>	03/31/21		RESTEK, Lot A0118105		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-568718-D_00010</b>	05/31/22		RESTEK, Lot A0127975		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-ARCH SS A_00098</b>	12/13/18	06/13/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00099</b>	12/13/18	06/22/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00100</b>	12/13/18	07/12/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-BFB_00026</b>							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1 00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1 00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL
<b>MV-Gas/Ket A_00070</b>	08/05/18	02/05/18	P&T Methanol, Lot 177891	10 mL	MV-569721_00004	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00006	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
					(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
							Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890				Chloromethane	2500 ug/mL
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278		(Purchased Reagent)		Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
							Cyclohexanone	25000 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)			
<b>MV-Gas/Ket A_00075</b>	12/30/18	06/30/18	P&T Methanol, Lot 178178	10 mL	MV-569721_00006	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00008	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
					(Purchased Reagent)		2-Hexanone	12500 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486					



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-569722_00008	10/31/20		RESTEK, Lot A0131502		(Purchased Reagent)		4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
							Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)		Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
							Cyclohexanone	25000 ug/mL
MV-Gas/Ket B_00043	11/30/18	05/28/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
					MV-569722.sec_00004	160 uL	Methyl ethyl ketone (MEK)	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		Acetone	12500 ug/mL
.MV-569722.sec_00004	01/31/20		RESTEK, Lot A0124116		(Purchased Reagent)		Methyl ethyl ketone (MEK)	12500 ug/mL
							Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
MV-Gas/Ket B_00044	11/30/18	07/17/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
					MV-569722.sec_00004	160 uL	Methyl ethyl ketone (MEK)	160 ug/mL
							Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		Acetone	12500 ug/mL
.MV-569722.sec_00004	01/31/20		RESTEK, Lot A0124116		(Purchased Reagent)		Methyl ethyl ketone (MEK)	12500 ug/mL
							Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
MV-Main A_00037	12/31/18	06/30/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1,2-Tetrachloroethane	40 ug/mL
							1,1,1-Trichloroethane	40 ug/mL
							1,1,2,2-Tetrachloroethane	40 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor	40 ug/mL
							oethane	
							1,1,2-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,1-Dichloropropene	40 ug/mL
							1,2,3-Trichlorobenzene	40 ug/mL
							1,2,3-Trichloropropane	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2,4-Trimethylbenzene	40 ug/mL
							1,2-Dibromo-3-Chloropropane	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							1,2-Dichloropropane	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3,5-Trimethylbenzene	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dichloropropane	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	800 ug/mL
							2,2-Dichloropropane	40 ug/mL
							2-Chlorotoluene	40 ug/mL
							2-Methyl-2-propanol	400 ug/mL
							3-Chloro-1-propene	40 ug/mL
							4-Chlorotoluene	40 ug/mL
							4-Isopropyltoluene	40 ug/mL
							Acrylonitrile	400 ug/mL
							Benzene	40 ug/mL
							Bromobenzene	40 ug/mL
							Bromoform	40 ug/mL
							Carbon disulfide	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chlorobromomethane	40 ug/mL
							Chlorodibromomethane	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							cis-1,3-Dichloropropene	40 ug/mL
							Cyclohexane	40 ug/mL
							Dibromomethane	40 ug/mL
							Dichlorobromomethane	40 ug/mL
							Ethyl ether	40 ug/mL
							Ethyl methacrylate	40 ug/mL
							Ethylbenzene	40 ug/mL
							Ethylene Dibromide	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexane	40 ug/mL
							Iodomethane	40 ug/mL
							Isobutyl alcohol	1000 ug/mL
							Isopropylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methyl acetate	80 ug/mL
							Methyl tert-butyl ether	40 ug/mL
							Methylcyclohexane	40 ug/mL
							Methylene Chloride	40 ug/mL
							n-Butylbenzene	40 ug/mL
							n-Heptane	40 ug/mL
							N-Propylbenzene	40 ug/mL
							Naphthalene	40 ug/mL
							o-Xylene	40 ug/mL
							sec-Butylbenzene	40 ug/mL
							Styrene	40 ug/mL
							tert-Butylbenzene	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrachloroethene	40 ug/mL
							Tetrahydrofuran	80 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							trans-1,3-Dichloropropene	40 ug/mL
							trans-1,4-Dichloro-2-butene	40 ug/mL
							Trichloroethene	40 ug/mL
					MV-CUS17739_00002	800 uL	1-Chlorohexane	40 ug/mL
					2-Pentanone	160 ug/mL		
					sec-Butyl Alcohol	1200 ug/mL		
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluor oethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739_00002	07/31/19	Ultra, Lot CR-2819			(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
MV-Main A_00037	12/31/18	06/30/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	Xylenes, Total	80 ug/mL
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			(Purchased Reagent)		Xylenes, Total	5000 ug/mL
MV-Main B_00020	07/25/18	01/25/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	1,1,1-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							Ethylbenzene	40 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							m-Xylene & p-Xylene	40 ug/mL
							Methylene Chloride	40 ug/mL
							o-Xylene	40 ug/mL
							Styrene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
.MV-569720.sec_00002	07/31/18	RESTEK, Lot A0120604			(Purchased Reagent)		Xylenes, Total	80 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
Xylenes, Total	5000 ug/mL							
MV-Supp A_00029	06/30/18	03/04/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00003	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00003	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00001	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-571994_00001	240 uL	Ethanol	2400 ug/mL
					mv-VO-TAOH-5_00004	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
							Ethylene oxide	4000 ug/mL
							Propene oxide	4000 ug/mL
							Tetrahydrothiophene	80 ug/mL
					.mv-570808_00003	06/30/18	Restek, Lot A0123685	
1,3,5-Trichlorobenzene	2500 ug/mL							
2-Chloro-1,3-butadiene	2500 ug/mL							



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00003	06/30/18		Restek, Lot A0123728		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00001	12/31/18		RESTEK, Lot A0123796		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00001	06/30/20		RESTEK, Lot A0128797		(Purchased Reagent)		Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00004	08/19/18		SPEX, Lot TS180220004		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL



# Method 8260B

---

Volatile Organic Compounds (GC/MS)  
by Method 8260B



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low  
 GC Column (1): DB-624 (60. ID: 0.25 (mm))

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
AFDV-228	280-111864-1	96	83	91	98
AFDV-228 DL	280-111864-1 DL	93	90	99	107
AFDV-229	280-111864-2	95	80	89	94
AFDV-229 DL	280-111864-2 DL	92	90	100	107
	MB 280-422639/8	98	80	97	98
	MB 280-422809/8	89	87	101	108
	LCS 280-422639/6	90	75	95	102
	LCS 280-422809/4	91	91	102	107
	280-111985-E-4 MS	93	79	95	100
	280-111749-E-1 MS	93	91	99	107
	280-111985-E-4 MSD	95	81	96	97
	280-111749-E-1 MSD	92	94	99	107

	<u>QC LIMITS</u>
DBFM = Dibromofluoromethane (Surr)	77-120
DCA = 1,2-Dichloroethane-d4 (Surr)	70-127
TOL = Toluene-d8 (Surr)	80-125
BFB = 4-Bromofluorobenzene (Surr)	78-120

# Column to be used to flag recovery values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5763.D  
 Lab ID: LCS 280-422639/6 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	4.39	88	65-135	
1,1-Dichloroethane	5.00	4.04	81	65-135	
1,1-Dichloroethene	5.00	4.08	82	65-136	
1,2-Dichloroethane	5.00	4.12	82	65-135	
Methyl ethyl ketone (MEK)	20.0	12.6	63	44-177	
Acetone	20.0	12.9	64	39-156	
Benzene	5.00	4.54	91	65-135	
Chloroethane	5.00	3.63	73	46-136	
cis-1,2-Dichloroethene	5.00	4.84	97	65-135	
Ethylbenzene	5.00	5.53	111	65-135	
Methylene Chloride	5.00	4.06	81	54-141	
m-Xylene & p-Xylene	5.00	5.54	111	65-135	
o-Xylene	5.00	5.85	117	65-135	
Styrene	5.00	5.52	110	65-135	
Tetrachloroethene	5.00	5.60	112	65-135	
Toluene	5.00	5.04	101	65-135	
trans-1,2-Dichloroethene	5.00	4.48	90	65-135	
Trichloroethene	5.00	4.63	93	65-135	
Vinyl chloride	5.00	3.69	74	40-137	
Xylenes, Total	10.0	11.4	114	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: P7957.D  
 Lab ID: LCS 280-422809/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.25	105	65-135	
1,1-Dichloroethane	5.00	5.31	106	65-135	
1,1-Dichloroethene	5.00	5.48	110	65-136	
1,2-Dichloroethane	5.00	5.25	105	65-135	
Methyl ethyl ketone (MEK)	20.0	21.2	106	44-177	
Acetone	20.0	21.7	109	39-156	
Benzene	5.00	5.36	107	65-135	
Chloroethane	5.00	4.98	100	46-136	
cis-1,2-Dichloroethene	5.00	5.44	109	65-135	
Ethylbenzene	5.00	5.47	109	65-135	
Methylene Chloride	5.00	5.23	105	54-141	
m-Xylene & p-Xylene	5.00	5.45	109	65-135	
o-Xylene	5.00	5.76	115	65-135	
Styrene	5.00	5.38	108	65-135	
Tetrachloroethene	5.00	5.40	108	65-135	
Toluene	5.00	5.28	106	65-135	
trans-1,2-Dichloroethene	5.00	5.44	109	65-135	
Trichloroethene	5.00	5.34	107	65-135	
Vinyl chloride	5.00	4.66	93	40-137	
Xylenes, Total	10.0	11.2	112	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5766.D  
 Lab ID: 280-111985-E-4 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	4.62	92	65-135	
1,1-Dichloroethane	5.00	ND	4.08	82	65-135	
1,1-Dichloroethene	5.00	ND	4.22	84	65-136	
1,2-Dichloroethane	5.00	ND	4.20	84	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	12.7	63	44-177	
Acetone	20.0	ND	11.9	59	39-156	
Benzene	5.00	ND	4.67	93	65-135	
Chloroethane	5.00	ND	3.49	70	46-136	
cis-1,2-Dichloroethene	5.00	ND	4.82	96	65-135	
Ethylbenzene	5.00	ND	5.59	112	65-135	
Methylene Chloride	5.00	ND	4.14	83	54-141	
m-Xylene & p-Xylene	5.00	ND	5.35	107	65-135	
o-Xylene	5.00	ND	5.97	119	65-135	
Styrene	5.00	ND	5.49	110	65-135	
Tetrachloroethene	5.00	ND	5.48	110	65-135	
Toluene	5.00	ND	5.12	102	65-135	
trans-1,2-Dichloroethene	5.00	ND	4.65	93	65-135	
Trichloroethene	5.00	ND	4.72	94	65-135	
Vinyl chloride	5.00	ND	3.16	63	40-137	
Xylenes, Total	10.0	ND	11.3	113	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: P7966.D  
 Lab ID: 280-111749-E-1 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	4.81	96	65-135	
1,1-Dichloroethane	5.00	ND	5.03	101	65-135	
1,1-Dichloroethene	5.00	ND	5.08	102	65-136	
1,2-Dichloroethane	5.00	ND	5.11	102	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	21.6	108	44-177	
Acetone	20.0	ND	23.0	115	39-156	
Benzene	5.00	ND	4.90	98	65-135	
Chloroethane	5.00	ND	4.94	99	46-136	
cis-1,2-Dichloroethene	5.00	ND	5.04	101	65-135	
Ethylbenzene	5.00	ND	4.30	86	65-135	
Methylene Chloride	5.00	ND	4.73	95	54-141	
m-Xylene & p-Xylene	5.00	ND	4.32	86	65-135	
o-Xylene	5.00	ND	4.61	92	65-135	
Styrene	5.00	ND	3.48	70	65-135	
Tetrachloroethene	5.00	ND	4.22	84	65-135	
Toluene	5.00	ND	4.80	96	65-135	
trans-1,2-Dichloroethene	5.00	ND	5.04	101	65-135	
Trichloroethene	5.00	ND	4.66	93	65-135	
Vinyl chloride	5.00	ND	4.69	94	40-137	
Xylenes, Total	10.0	ND	8.93	89	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5767.D  
 Lab ID: 280-111985-E-4 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	4.46	89	3	20	65-135	
1,1-Dichloroethane	5.00	3.91	78	4	21	65-135	
1,1-Dichloroethene	5.00	4.27	85	1	20	65-136	
1,2-Dichloroethane	5.00	3.92	78	7	20	65-135	
Methyl ethyl ketone (MEK)	20.0	13.1	66	4	32	44-177	
Acetone	20.0	13.2	66	10	23	39-156	
Benzene	5.00	4.32	86	8	20	65-135	
Chloroethane	5.00	3.82	76	9	25	46-136	
cis-1,2-Dichloroethene	5.00	4.54	91	6	20	65-135	
Ethylbenzene	5.00	4.89	98	13	20	65-135	
Methylene Chloride	5.00	4.03	81	3	26	54-141	
m-Xylene & p-Xylene	5.00	4.89	98	9	20	65-135	
o-Xylene	5.00	5.29	106	12	20	65-135	
Styrene	5.00	4.88	98	12	26	65-135	
Tetrachloroethene	5.00	4.95	99	10	20	65-135	
Toluene	5.00	4.82	96	6	20	65-135	
trans-1,2-Dichloroethene	5.00	4.49	90	3	24	65-135	
Trichloroethene	5.00	4.24	85	11	20	65-135	
Vinyl chloride	5.00	3.65	73	15	24	40-137	
Xylenes, Total	10.0	10.2	102	11	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: P7967.D  
 Lab ID: 280-111749-E-1 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	4.68	94	3	20	65-135	
1,1-Dichloroethane	5.00	4.83	97	4	21	65-135	
1,1-Dichloroethene	5.00	4.98	100	2	20	65-136	
1,2-Dichloroethane	5.00	5.04	101	1	20	65-135	
Methyl ethyl ketone (MEK)	20.0	21.7	109	1	32	44-177	
Acetone	20.0	24.0	120	4	23	39-156	
Benzene	5.00	4.74	95	3	20	65-135	
Chloroethane	5.00	5.12	102	4	25	46-136	
cis-1,2-Dichloroethene	5.00	4.88	98	3	20	65-135	
Ethylbenzene	5.00	4.01	80	7	20	65-135	
Methylene Chloride	5.00	4.65	93	2	26	54-141	
m-Xylene & p-Xylene	5.00	4.01	80	8	20	65-135	
o-Xylene	5.00	4.38	88	5	20	65-135	
Styrene	5.00	4.19	84	18	26	65-135	
Tetrachloroethene	5.00	3.94	79	7	20	65-135	
Toluene	5.00	4.54	91	6	20	65-135	
trans-1,2-Dichloroethene	5.00	4.83	97	4	24	65-135	
Trichloroethene	5.00	4.46	89	4	20	65-135	
Vinyl chloride	5.00	4.78	96	2	24	40-137	
Xylenes, Total	10.0	8.39	84	6	20	65-135	

# Column to be used to flag recovery and RPD values



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab File ID: Q5764.D Lab Sample ID: MB 280-422639/8  
Matrix: Water Heated Purge: (Y/N) N  
Instrument ID: VMS\_Q Date Analyzed: 07/18/2018 11:46  
GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-422639/6	Q5763.D	07/18/2018 11:24
	280-111985-E-4 MS	Q5766.D	07/18/2018 12:31
	280-111985-E-4 MSD	Q5767.D	07/18/2018 12:53
AFDV-228	280-111864-1	Q5785.D	07/18/2018 19:51
AFDV-229	280-111864-2	Q5787.D	07/18/2018 20:36



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab File ID: P7956.D Lab Sample ID: MB 280-422809/8  
Matrix: Water Heated Purge: (Y/N) N  
Instrument ID: VMS\_P Date Analyzed: 07/19/2018 13:27  
GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-422809/4	P7957.D	07/19/2018 13:46
AFDV-228 DL	280-111864-1 DL	P7962.D	07/19/2018 15:20
AFDV-229 DL	280-111864-2 DL	P7963.D	07/19/2018 15:38
	280-111749-E-1 MS	P7966.D	07/19/2018 16:35
	280-111749-E-1 MSD	P7967.D	07/19/2018 16:54



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: P7457.D BFB Injection Date: 06/23/2018  
 Instrument ID: VMS\_P BFB Injection Time: 11:37  
 Analysis Batch No.: 419732

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.0
75	30.0 - 60.0 % of mass 95	50.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.8
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	57.4
175	5.0 - 9.0 % of mass 174	3.8 (6.5) 1
176	95.0 - 101.0 % of mass 174	55.1 (96.0) 1
177	5.0 - 9.0 % of mass 176	3.3 (5.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD010 280-419732/20	P7468.D	06/23/2018	15:11
	STD020 280-419732/21	P7469.D	06/23/2018	15:30
	STD050 280-419732/22	P7470.D	06/23/2018	15:49
	ICIS 280-419732/23	P7471.D	06/23/2018	16:08
	STD30 280-419732/24	P7472.D	06/23/2018	16:26
	STD60 280-419732/25	P7473.D	06/23/2018	16:45
	ICV 280-419732/26	P7475.D	06/23/2018	17:23



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: P7944.D BFB Injection Date: 07/19/2018  
 Instrument ID: VMS\_P BFB Injection Time: 08:56  
 Analysis Batch No.: 422809

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	21.6
75	30.0 - 60.0 % of mass 95	52.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.9
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	70.2
175	5.0 - 9.0 % of mass 174	4.3 (6.2) 1
176	95.0 - 101.0 % of mass 174	67.2 (95.8) 1
177	5.0 - 9.0 % of mass 176	4.3 (6.3) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-422809/3	P7946.D	07/19/2018	09:45
	STD003 280-422809/57	P7947.D	07/19/2018	10:37
	STD010 280-422809/58	P7948.D	07/19/2018	10:55
	STD020 280-422809/59	P7949.D	07/19/2018	11:14
	STD050 280-422809/60	P7950.D	07/19/2018	11:33
	ICIS 280-422809/61	P7951.D	07/19/2018	11:52
	STD30 280-422809/62	P7952.D	07/19/2018	12:11
	STD60 280-422809/63	P7953.D	07/19/2018	12:30
	ICV 280-422809/64	P7955.D	07/19/2018	13:08
	MB 280-422809/8	P7956.D	07/19/2018	13:27
	LCS 280-422809/4	P7957.D	07/19/2018	13:46
AFDV-228 DL	280-111864-1 DL	P7962.D	07/19/2018	15:20
AFDV-229 DL	280-111864-2 DL	P7963.D	07/19/2018	15:38
	280-111749-E-1 MS	P7966.D	07/19/2018	16:35
	280-111749-E-1 MSD	P7967.D	07/19/2018	16:54



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q4999.D BFB Injection Date: 06/25/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 08:50  
 Analysis Batch No.: 419807

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	17.3
75	30.0 - 60.0 % of mass 95	44.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.9
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	65.8
175	5.0 - 9.0 % of mass 174	4.8 (7.2) 1
176	95.0 - 101.0 % of mass 174	63.9 (97.1) 1
177	5.0 - 9.0 % of mass 176	5.0 (7.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD010 280-419807/19	Q5010.D	06/25/2018	12:56
	STD020 280-419807/20	Q5011.D	06/25/2018	13:19
	ICIS 280-419807/22	Q5013.D	06/25/2018	14:05
	STD30 280-419807/23	Q5014.D	06/25/2018	14:28
	STD60 280-419807/24	Q5015.D	06/25/2018	14:51
	STD050 280-419807/21	Q5016.D	06/25/2018	15:14
	ICV 280-419807/25	Q5018.D	06/25/2018	15:59



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q5623.D BFB Injection Date: 07/12/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 13:44  
 Analysis Batch No.: 422015

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	23.5
75	30.0 - 60.0 % of mass 95	55.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.0
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	64.7
175	5.0 - 9.0 % of mass 174	4.8 (7.4) 1
176	95.0 - 101.0 % of mass 174	61.7 (95.4) 1
177	5.0 - 9.0 % of mass 176	4.6 (7.4) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD003 280-422015/12	Q5624.D	07/12/2018	13:55
	STD010 280-422015/13	Q5625.D	07/12/2018	14:17
	STD020 280-422015/14	Q5626.D	07/12/2018	14:39
	STD050 280-422015/15	Q5627.D	07/12/2018	15:02
	STD10 280-422015/16	Q5628.D	07/12/2018	15:41
	STD30 280-422015/17	Q5629.D	07/12/2018	16:03
	STD60 280-422015/18	Q5630.D	07/12/2018	16:26
	ICV 280-422015/19	Q5632.D	07/12/2018	17:11



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab File ID: Q5635.D BFB Injection Date: 07/16/2018  
Instrument ID: VMS\_Q BFB Injection Time: 08:55  
Analysis Batch No.: 422281

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.8	
75	30.0 - 60.0 % of mass 95	52.2	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.3	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	60.8	
175	5.0 - 9.0 % of mass 174	4.7	(7.7) 1
176	95.0 - 101.0 % of mass 174	59.0	(96.9) 1
177	5.0 - 9.0 % of mass 176	4.5	(7.6) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICV 280-422281/12	Q5637.D	07/16/2018	09:45



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q5757.D BFB Injection Date: 07/18/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 08:52  
 Analysis Batch No.: 422639

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.1
75	30.0 - 60.0 % of mass 95	50.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.8
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	69.6
175	5.0 - 9.0 % of mass 174	4.4 (6.4) 1
176	95.0 - 101.0 % of mass 174	67.2 (96.5) 1
177	5.0 - 9.0 % of mass 176	5.2 (7.7) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-422639/2	Q5759.D	07/18/2018	09:41
	CCV 280-422639/3	Q5760.D	07/18/2018	10:05
	CCV 280-422639/12	Q5761.D	07/18/2018	10:27
	LCS 280-422639/6	Q5763.D	07/18/2018	11:24
	MB 280-422639/8	Q5764.D	07/18/2018	11:46
	280-111985-E-4 MS	Q5766.D	07/18/2018	12:31
	280-111985-E-4 MSD	Q5767.D	07/18/2018	12:53
AFDV-228	280-111864-1	Q5785.D	07/18/2018	19:51
AFDV-229	280-111864-2	Q5787.D	07/18/2018	20:36



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419732/23 Date Analyzed: 06/23/2018 16:08  
 Instrument ID: VMS\_P GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): P7471.D Heated Purge: (Y/N) N  
 Calibration ID: 32813

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	113184	5.60	1075483	7.56	179985	9.83	
UPPER LIMIT	226368	6.10	2150966	8.06	359970	10.33	
LOWER LIMIT	56592	5.10	537742	7.06	89993	9.33	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419732/26		109990	5.59	1009351	7.56	169012	9.83

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Sample No.: ICIS 280-419732/23 Date Analyzed: 06/23/2018 16:08  
Instrument ID: VMS\_P GC Column: DB-624 (60.25) ID: 0.25 (mm)  
Lab File ID (Standard): P7471.D Heated Purge: (Y/N) N  
Calibration ID: 32813

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	226433	11.65				
UPPER LIMIT	452866	12.15				
LOWER LIMIT	113217	11.15				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-419732/26		217951	11.65			

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-422809/61 Date Analyzed: 07/19/2018 11:52  
 Instrument ID: VMS\_P GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): P7951.D Heated Purge: (Y/N) N  
 Calibration ID: 33063

	TBA <sub>d9</sub>		FB		CBN <sub>zd5</sub>		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	105396	5.59	1333858	7.55	288273	9.83	
UPPER LIMIT	210792	6.09	2667716	8.05	576546	10.33	
LOWER LIMIT	52698	5.09	666929	7.05	144137	9.33	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-422809/64		132387	5.59	1441524	7.55	312413	9.82
MB 280-422809/8		117732	5.59	1390354	7.55	300182	9.83
LCS 280-422809/4		124005	5.59	1424934	7.55	300943	9.83
280-111864-1 DL	AFDV-228 DL	109752	5.59	1325352	7.55	288559	9.83
280-111864-2 DL	AFDV-229 DL	115633	5.59	1333008	7.56	291941	9.83
280-111749-E-1 MS		133816	5.59	1366686	7.56	304077	9.82
280-111749-E-1 MSD		134019	5.59	1392401	7.56	308452	9.83

TBA<sub>d9</sub> = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd5</sub> = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-422809/61 Date Analyzed: 07/19/2018 11:52  
 Instrument ID: VMS\_P GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): P7951.D Heated Purge: (Y/N) N  
 Calibration ID: 33063

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		409209	11.65				
UPPER LIMIT		818418	12.15				
LOWER LIMIT		204605	11.15				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-422809/64		435483	11.65				
MB 280-422809/8		407010	11.65				
LCS 280-422809/4		427363	11.65				
280-111864-1 DL	AFDV-228 DL	405653	11.65				
280-111864-2 DL	AFDV-229 DL	405853	11.65				
280-111749-E-1 MS		430907	11.65				
280-111749-E-1 MSD		435621	11.65				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419807/22 Date Analyzed: 06/25/2018 14:05  
 Instrument ID: VMS\_Q GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): Q5013.D Heated Purge: (Y/N) N  
 Calibration ID: 32817

		TBAd9		FB		CBNZd5		
		AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT		169739	5.86	2692007	7.79	504515	10.02	
UPPER LIMIT		339478	6.36	5384014	8.29	1009030	10.52	
LOWER LIMIT		84870	5.36	1346004	7.29	252258	9.52	
LAB SAMPLE ID		CLIENT SAMPLE ID						
ICV 280-419807/25		159854	5.86	2227555	7.79	434432	10.02	
CCV 280-422639/2		143494	5.87	2852392	7.80	604242	10.03	
CCV 280-422639/3		126881	5.87	2852625	7.80	620711	10.03	
CCV 280-422639/12		164827	5.87	2821665	7.80	622678	10.03	
LCS 280-422639/6		175255	5.88	3455920	7.81	724083	10.03	
MB 280-422639/8		166514	5.87	2801894	7.80	595281	10.03	
280-111985-E-4 MS		158691	5.87	3152509	7.80	663775	10.03	
280-111985-E-4 MSD		180057	5.87	3058135	7.81	668242	10.04	
280-111864-1		AFDV-228	140201	5.87	2793330	7.80	639570	10.03
280-111864-2		AFDV-229	158247	5.87	2722077	7.80	616311	10.03

TBA<sub>d9</sub> = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd5</sub> = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419807/22 Date Analyzed: 06/25/2018 14:05  
 Instrument ID: VMS\_Q GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): Q5013.D Heated Purge: (Y/N) N  
 Calibration ID: 32817

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		567283	11.86				
UPPER LIMIT		1134566	12.36				
LOWER LIMIT		283642	11.36				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419807/25		485930	11.86				
CCV 280-422639/2		718862	11.87				
CCV 280-422639/3		690200	11.87				
CCV 280-422639/12		787550	11.87				
LCS 280-422639/6		796989	11.87				
MB 280-422639/8		730593	11.88				
280-111985-E-4 MS		789421	11.88				
280-111985-E-4 MSD		814556	11.87				
280-111864-1	AFDV-228	736924	11.88				
280-111864-2	AFDV-229	763998	11.88				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111864-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-228</u>	Lab Sample ID: <u>280-111864-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>Q5785.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/10/2018 15:55</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/18/2018 19:51</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>100</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422639</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	9500	E	100	16
75-34-3	1,1-Dichloroethane	8600	E	100	22
75-35-4	1,1-Dichloroethene	1000		100	23
107-06-2	1,2-Dichloroethane	23	J	100	13
78-93-3	Methyl ethyl ketone (MEK)	ND		600	200
67-64-1	Acetone	450	J	1000	190
71-43-2	Benzene	59	J	100	16
75-00-3	Chloroethane	ND		200	41
156-59-2	cis-1,2-Dichloroethene	43000	E	100	15
100-41-4	Ethylbenzene	3900	E	100	16
75-09-2	Methylene Chloride	ND		200	32
179601-23-1	m-Xylene & p-Xylene	8000	E	200	34
95-47-6	o-Xylene	4000		100	19
100-42-5	Styrene	ND		100	17
127-18-4	Tetrachloroethene	ND		100	20
108-88-3	Toluene	8400	E	100	17
156-60-5	trans-1,2-Dichloroethene	86	J	100	15
79-01-6	Trichloroethene	ND		100	16
75-01-4	Vinyl chloride	14000	E	100	10
1330-20-7	Xylenes, Total	12000		200	19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	83		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	91		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-228 DL Lab Sample ID: 280-111864-1 DL

Matrix: Water Lab File ID: P7962.D

Analysis Method: 8260B Date Collected: 07/10/2018 15:55

Sample wt/vol: 20 (mL) Date Analyzed: 07/19/2018 15:20

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 2000

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 422809 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	10000		2000	320
75-34-3	1,1-Dichloroethane	12000		2000	440
156-59-2	cis-1,2-Dichloroethene	110000		2000	300
100-41-4	Ethylbenzene	3900		2000	320
179601-23-1	m-Xylene & p-Xylene	12000		4000	680
95-47-6	o-Xylene	3800		2000	380
108-88-3	Toluene	35000		2000	340
75-01-4	Vinyl chloride	22000		2000	200
1330-20-7	Xylenes, Total	16000		4000	380

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	93		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111864-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-229</u>	Lab Sample ID: <u>280-111864-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>Q5787.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/10/2018 16:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/18/2018 20:36</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>200</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422639</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	9600		200	32
75-34-3	1,1-Dichloroethane	10000		200	44
75-35-4	1,1-Dichloroethene	1100		200	46
107-06-2	1,2-Dichloroethane	ND		200	26
78-93-3	Methyl ethyl ketone (MEK)	ND		1200	400
67-64-1	Acetone	ND		2000	380
71-43-2	Benzene	61	J	200	32
75-00-3	Chloroethane	ND		400	82
156-59-2	<i>cis-1,2-Dichloroethene</i>	61000	E	200	30
100-41-4	Ethylbenzene	4400		200	32
75-09-2	Methylene Chloride	ND		400	64
179601-23-1	m-Xylene & p-Xylene	11000		400	68
95-47-6	o-Xylene	4500		200	38
100-42-5	Styrene	180	J	200	34
127-18-4	Tetrachloroethene	ND		200	40
108-88-3	<i>Toluene</i>	15000	E	200	34
156-60-5	trans-1,2-Dichloroethene	100	J	200	30
79-01-6	Trichloroethene	ND		200	32
75-01-4	<i>Vinyl chloride</i>	19000	E	200	20
1330-20-7	Xylenes, Total	16000		400	38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	80		70-127
460-00-4	4-Bromofluorobenzene (Surr)	94		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	89		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-229 DL Lab Sample ID: 280-111864-2 DL  
 Matrix: Water Lab File ID: P7963.D  
 Analysis Method: 8260B Date Collected: 07/10/2018 16:00  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/19/2018 15:38  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 2000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 422809 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	100000		2000	300
108-88-3	Toluene	36000		2000	340
75-01-4	Vinyl chloride	22000		2000	200

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	92		77-120
2037-26-5	Toluene-d8 (Surr)	100		80-125



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419732

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2018 15:11 Calibration End Date: 06/23/2018 16:45 Calibration ID: 32813

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419732/20	P7468.D
Level 2	STD020 280-419732/21	P7469.D
Level 3	STD050 280-419732/22	P7470.D
Level 4	ICIS 280-419732/23	P7471.D
Level 5	STD30 280-419732/24	P7472.D
Level 6	STD60 280-419732/25	P7473.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0025 0.0019	0.0028	0.0029	0.0027	0.0023	Ave		0.0025				14.6		15.0			
Ethanol	++++ 0.1466	0.1519	0.1653	0.1726	0.1624	Ave		0.1598				6.5		15.0			
Propene oxide	0.0171 0.0167	0.0175	0.0191	0.0194	0.0198	Ave		0.0183				7.1		15.0			
2-Propanol	0.7916 0.7465	0.7141	0.8131	0.8224	0.7974	Ave		0.7808				5.4		15.0			
Acetonitrile	0.0072 0.0068	0.0083	0.0065	0.0073	0.0071	Ave		0.0072				8.3		15.0			
Di-isopropyl ether (DIPE)	0.1624 0.1943	0.1709	0.1806	0.1818	0.1906	Ave		0.1801				6.6		15.0			
Chloroprene	0.4055 0.4205	0.4098	0.4525	0.4514	0.4486	Ave		0.4314				5.1		15.0			
Tert-butyl ethyl ether	0.4778 0.5056	0.4841	0.5065	0.5080	0.5229	Ave		0.5008				3.3		15.0			
Ethyl acetate	0.0514 0.0420	0.0449	0.0454	0.0445	0.0429	Ave		0.0452				7.3		15.0			
Propionitrile	0.0078 0.0096	0.0082	0.0090	0.0096	0.0099	Ave		0.0090				9.5		15.0			
Methacrylonitrile	0.0347 0.0342	0.0365	0.0376	0.0387	0.0377	Ave		0.0366				4.9		15.0			
Tert-amyl methyl ether	0.3542 0.4514	0.3637	0.3875	0.3999	0.4439	Ave		0.4001				10.1		15.0			
n-Butanol	++++ 0.3593	0.2405	0.2244	0.3248	0.3486	Lin1	-9.132	0.3616							0.9970		0.9900
Methyl methacrylate	0.0126 0.0221	0.0155	0.0177	0.0199	0.0218	Lin2	-0.019	0.0211							0.9960		0.9900
2-Nitropropane	0.0057 0.0061	0.0043	0.0058	0.0058	0.0063	Ave		0.0057				12.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419732  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 06/23/2018 15:11 Calibration End Date: 06/23/2018 16:45 Calibration ID: 32813

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
cis-1,4-Dichloro-2-butene	0.0836 0.1091	0.0857	0.1028	0.1097	0.1054	Ave		0.0994				11.8		15.0			
1,2,3-Trimethylbenzene	3.4668 3.7992	3.8544	3.8473	4.0471	4.3157	Ave		3.8884				7.2		15.0			
1,3,5-Trichlorobenzene	1.0681 1.2047	1.1850	1.1613	1.2643	1.3093	Ave		1.1988				7.0		15.0			
Dibromofluoromethane (Surr)	0.2109 0.2231	0.2000	0.2094	0.2027	0.2164	Ave		0.2104				4.1		15.0			
1,2-Dichloroethane-d4 (Surr)	0.1906 0.1722	0.1817	0.1825	0.1733	0.1774	Ave		0.1796				3.8		15.0			
Toluene-d8 (Surr)	5.5779 6.6087	5.5033	5.6742	5.5745	6.0575	Ave		5.8327				7.3		15.0			
4-Bromofluorobenzene (Surr)	1.3188 1.1964	1.2720	1.2192	1.1881	1.2687	Ave		1.2439				4.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419732

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2018 15:11 Calibration End Date: 06/23/2018 16:45 Calibration ID: 32813

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419732/20	P7468.D
Level 2	STD020 280-419732/21	P7469.D
Level 3	STD050 280-419732/22	P7470.D
Level 4	ICIS 280-419732/23	P7471.D
Level 5	STD30 280-419732/24	P7472.D
Level 6	STD60 280-419732/25	P7473.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Ave	21778 983682	48129	124464	236277	592637	100 6000	200	500	1000	3000
Ethanol	TBAd 9	Ave	++++ 246418	8526	22572	46875	129844	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	152128 8649372	304215	826263	1665978	5051937	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Ave	3733 209154	6678	18507	37232	106237	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	6433 353435	14384	28173	62896	182345	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	14423 1005812	29633	78116	156395	486323	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	36018 2176453	71080	195726	388349	1144675	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	42434 2616761	83955	219098	437085	1334226	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	9135 435248	15565	39290	76599	218865	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	6918 498514	14213	38888	82337	252965	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	30806 1767797	63335	162635	332573	963029	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	31458 2336044	63087	167611	344055	1132622	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Lin1	++++ 251668	5623	12768	36758	116096	++++ 1500	50.0	125	250	750
Methyl methacrylate	FB	Lin2	2236 228337	5378	15326	34186	111184	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Ave	1019 63187	1491	5012	10047	32246	2.00 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	3117 270261	6272	18698	39761	127275	2.00 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419732

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/23/2018 15:11 Calibration End Date: 06/23/2018 16:45 Calibration ID: 32813

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3-Trimethylbenzene	DCBd 4	Ave	64661 4704258	141002	349816	733122	2605898	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	19922 1491627	43350	105591	229018	790580	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	18731 1154490	34688	90575	174373	552286	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	16925 891158	31518	78953	149115	452643	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	81126 5596538	159926	405305	802654	2698657	1.00 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	24598 1481386	46532	110854	215212	766051	1.00 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-422809/57	P7947.D
Level 2	STD010 280-422809/58	P7948.D
Level 3	STD020 280-422809/59	P7949.D
Level 4	STD050 280-422809/60	P7950.D
Level 5	ICIS 280-422809/61	P7951.D
Level 6	STD30 280-422809/62	P7952.D
Level 7	STD60 280-422809/63	P7953.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.5445 0.5339	0.4621 0.4979	0.3996	0.5400	0.5370	Ave		0.5021				10.8		15.0			
Chloromethane	0.4014 0.3753	0.3597 0.3481	0.3324	0.3863	0.3709	Ave		0.3677			0.1000	6.3		15.0			
Vinyl chloride	0.3777 0.3761	0.3578 0.3408	0.3404	0.3935	0.3823	Ave		0.3669				5.7		30.0			
Bromomethane	0.3677 0.2995	0.3300 0.2438	0.3184	0.3253	0.3141	Ave		0.3141				11.9		15.0			
Chloroethane	0.3105 0.2952	0.2993 0.2561	0.2892	0.3069	0.3015	Ave		0.2941				6.2		15.0			
Dichlorofluoromethane	0.8176 0.7364	0.7154 0.6928	0.7141	0.7398	0.7258	Ave		0.7345				5.4		15.0			
Trichlorofluoromethane	0.7088 0.6630	0.6451 0.6174	0.6120	0.6692	0.6502	Ave		0.6522				5.0		15.0			
Ethyl ether	0.1554 0.1417	0.1085 0.1455	0.1184	0.1298	0.1367	Ave		0.1337				12.1		15.0			
Acrolein	0.0089 0.0135	0.0094 0.0142	0.0102	0.0117	0.0127	Lin1	-0.031	0.0139							0.9970		0.9900
Freon 113	0.2769 0.3076	0.2818 0.3016	0.2775	0.3178	0.3058	Ave		0.2956				5.6		15.0			
Acetone	++++ 0.0228	0.0264 0.0216	0.0233	0.0231	0.0231	Ave		0.0234				6.8		15.0			
1,1-Dichloroethene	0.2992 0.3608	0.3026 0.3525	0.3033	0.3605	0.3647	Ave		0.3348				9.3		30.0			
Iodomethane	0.5131 0.5030	0.4412 0.5091	0.4284	0.4854	0.4826	Ave		0.4804				6.9		15.0			
Methyl acetate	++++ 0.0622	0.0661 0.0658	0.0619	0.0607	0.0624	Ave		0.0632				3.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.4986 0.5833	0.4675 0.5623	0.4649	0.5669	0.5794	Ave		0.5318				9.9		15.0			
Carbon disulfide	1.2473 1.4759	1.1872 1.3904	1.2174	1.4901	1.4956	Ave		1.3577				10.1		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	++++ 1.4315	1.3037 1.2780	1.3397	1.4349	1.4417	Ave		1.3716				5.3		15.0			
Methylene Chloride	0.8905 0.2846	0.4404 0.2840	0.3555	0.3256	0.3087	Lin2	0.1816	0.2783							0.9980		0.9900
Acrylonitrile	0.0206 0.0317	0.0234 0.0328	0.0248	0.0297	0.0314	Lin2	-0.034	0.0303							0.9910		0.9900
Methyl tert-butyl ether	0.3086 0.3999	0.2848 0.4246	0.3128	0.3520	0.3846	Ave		0.3525				14.9		15.0			
trans-1,2-Dichloroethene	0.3530 0.3631	0.3169 0.3456	0.3216	0.3725	0.3615	Ave		0.3477				6.1		15.0			
Hexane	2.3993 2.9926	2.3280 2.7665	2.3798	2.9553	2.8986	Ave		2.6743				11.0		15.0			
Vinyl acetate	0.1205 0.2043	0.1196 0.2099	0.1267	0.1655	0.1825	Lin1	-0.118	0.2050							0.9960		0.9900
1,1-Dichloroethane	0.6007 0.6032	0.5477 0.5881	0.5567	0.6174	0.6047	Ave		0.5884			0.1000	4.5		15.0			
2-Butanone (MEK)	++++ 0.0405	0.0434 0.0397	0.0372	0.0408	0.0394	Ave		0.0402				5.0		15.0			
sec-Butyl Alcohol	1.0326 1.1801	0.9828 1.0475	0.8158	0.9485	1.0362	Ave		1.0062				11.0		15.0			
cis-1,2-Dichloroethene	0.3155 0.3446	0.2958 0.3314	0.3060	0.3391	0.3399	Ave		0.3246				5.8		15.0			
2,2-Dichloropropane	0.4861 0.5283	0.3919 0.5389	0.3951	0.4728	0.4861	Ave		0.4713				12.4		15.0			
Chlorobromomethane	0.0941 0.0990	0.0866 0.0995	0.0917	0.0989	0.1014	Ave		0.0959				5.5		15.0			
Chloroform	0.5437 0.5378	0.4969 0.5217	0.4946	0.5459	0.5363	Ave		0.5253				4.1		30.0			
Tetrahydrofuran	++++ 0.0216	++++ 0.0228	0.0161	0.0188	0.0205	Ave		0.0200				13.0		15.0			
Isobutyl alcohol	++++ 0.4641	0.6177 0.4062	0.4712	0.4284	0.4670	Lin2	4.3703	0.4219							0.9920		0.9900
1,1,1-Trichloroethane	0.5133 0.5730	0.4622 0.5657	0.4822	0.5555	0.5554	Ave		0.5296				8.3		15.0			
Cyclohexane	0.7697 0.7567	0.6322 0.7018	0.6505	0.7477	0.7375	Ave		0.7137				7.6		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.4161 0.5218	0.4340 0.4763	0.4447	0.5121	0.4987	Ave		0.4720				8.7		15.0			
Carbon tetrachloride	0.3838 0.4981	0.3703 0.4830	0.3830	0.4560	0.4666	Ave		0.4344				12.3		15.0			
1,2-Dichloroethane	0.2540 0.2598	0.2383 0.2558	0.2363	0.2578	0.2606	Ave		0.2518				4.0		15.0			
Benzene	1.3404 1.3226	1.2174 1.2138	1.2426	1.3574	1.3167	Ave		1.2873				4.7		15.0			
n-Heptane	0.4934 0.6377	0.4855 0.5397	0.5293	0.6218	0.6003	Ave		0.5582				11.0		15.0			
Trichloroethene	0.3243 0.3501	0.2965 0.3202	0.3074	0.3382	0.3302	Ave		0.3238				5.6		15.0			
2-Pentanone	++++ 0.0534	0.0348 0.0554	0.0375	0.0433	0.0488	Lin2	-0.079	0.0516							0.9920		0.9900
Methylcyclohexane	0.4906 0.6057	0.4746 0.5380	0.5153	0.5930	0.5800	Ave		0.5425				9.5		15.0			
1,2-Dichloropropane	0.2735 0.2807	0.2555 0.2673	0.2655	0.2790	0.2813	Ave		0.2718				3.5		30.0			
1,4-Dioxane	++++ 0.0009	++++ 0.0009	0.0012	0.0007	0.0008	Lin1	0.0027	0.0009							0.9900		0.9900
Dibromomethane	0.0747 0.0977	0.0812 0.0978	0.0844	0.0955	0.0964	Ave		0.0897				10.5		15.0			
Dichlorobromomethane	0.2484 0.3135	0.2459 0.3112	0.2524	0.2852	0.2983	Ave		0.2793				10.7		15.0			
2-Chloroethyl vinyl ether	++++ 0.0515	0.0194 0.0569	0.0251	0.0323	0.0392	Lin1	-0.056	0.0548							0.9900		0.9900
cis-1,3-Dichloropropene	1.0581 1.5799	0.9527 1.5690	1.0865	1.3196	1.4241	Lin1	-0.365	1.5547							0.9970		0.9900
4-Methyl-2-pentanone (MIBK)	0.0514 0.0794	0.0504 0.0785	0.0586	0.0666	0.0747	Lin1	-0.068	0.0783							0.9980		0.9900
Toluene	1.5148 1.3722	1.2862 1.1674	1.3157	1.4021	1.3447	Ave		1.3433				8.0		30.0			
Ethyl methacrylate	0.2231 0.6853	0.3448 0.7097	0.4004	0.5190	0.6037	Lin1	-0.260	0.6907							0.9950		0.9900
trans-1,3-Dichloropropene	0.1293 0.2458	0.1453 0.2473	0.1586	0.1933	0.2170	Lin1	-0.071	0.2432							0.9960		0.9900
1,1,2-Trichloroethane	0.1265 0.1298	0.1142 0.1288	0.1214	0.1281	0.1295	Ave		0.1255				4.6		15.0			
Methyl n-butyl ketone (MNBK)	++++ 0.2307	0.1352 0.2300	0.1588	0.1899	0.2065	Lin2	-0.384	0.2214							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichloropropane	1.0320 1.1538	0.9784 1.1246	1.0375	1.1183	1.1530	Ave		1.0854				6.3		15.0			
Tetrachloroethene	1.2597 1.2502	1.1020 1.0255	1.1296	1.2239	1.1414	Ave		1.1618				7.4		15.0			
Chlorodibromomethane	0.5159 0.7000	0.4582 0.7203	0.4990	0.5833	0.6449	Lin1	-0.156	0.7044							0.9970		0.9900
1,2-Dibromoethane	0.3971 0.5371	0.4148 0.5453	0.4335	0.4964	0.5310	Ave		0.4793				13.1		15.0			
1-Chlorohexane	++++ 2.3372	1.5395 1.7916	1.7872	2.0297	2.0184	Ave		1.9173				14.3		15.0			
Chlorobenzene	3.6907 3.4660	3.3704 3.0908	3.4384	3.5310	3.3906	Ave		3.4254			0.3000	5.3		15.0			
Ethylbenzene	2.1492 2.3201	2.0259 1.8937	2.1551	2.2562	2.1751	Ave		2.1393				6.6		30.0			
1,1,1,2-Tetrachloroethane	0.8212 1.0967	0.8110 1.0466	0.8332	0.9676	0.9919	Ave		0.9383				12.4		15.0			
m-Xylene & p-Xylene	2.5134 2.7697	2.4201 2.3060	2.4843	2.6521	2.5477	Ave		2.5276				6.0		15.0			
o-Xylene	1.8878 2.5559	1.9356 2.1184	2.2370	2.4440	2.4049	Ave		2.2262				11.6		15.0			
Styrene	2.5490 3.8796	2.6454 3.3199	3.1404	3.5617	3.6290	Lin2	-0.333	3.4930							0.9910		0.9900
Bromoform	++++ 0.2966	0.1631 0.3222	0.1866	0.2301	0.2573	Lin1	-0.230	0.3136			0.1000				0.9960		0.9900
Isopropylbenzene	4.5358 5.0254	4.3055 ++++	4.4847	4.9108	4.7350	Ave		4.6662				5.9		15.0			
Cyclohexanone	0.0071 0.0125	0.0066 0.0121	0.0117	0.0096	0.0106	Lin1	-0.110	0.0120							0.9960		0.9900
1,1,2,2-Tetrachloroethane	0.3927 0.4104	0.3733 0.4116	0.3742	0.4108	0.4271	Ave		0.4000			0.3000	5.1		15.0			
trans-1,4-Dichloro-2-butene	++++ 0.1017	0.0673 0.1076	0.0600	0.0828	0.0931	Lin1	-0.066	0.1059							0.9970		0.9900
1,2,3-Trichloropropane	++++ 0.1144	0.0985 0.1142	0.0919	0.1103	0.1198	Ave		0.1082				9.9		15.0			
N-Propylbenzene	1.0650 1.3962	1.0687 1.0435	1.1966	1.3109	1.2763	Ave		1.1939				11.7		15.0			
Bromobenzene	0.8108 0.8569	0.7530 0.7636	0.7985	0.8506	0.8439	Ave		0.8111				5.2		15.0			
1,3,5-Trimethylbenzene	3.1354 4.0719	3.2122 3.1471	3.6580	3.8776	3.7608	Ave		3.5518				10.8		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	0.9386 1.0850	0.9944 0.8841	1.0358	1.0585	1.0280	Ave		1.0035				7.0		15.0			
4-Chlorotoluene	0.8927 1.0678	0.8878 0.8908	0.9738	1.0117	1.0019	Ave		0.9609				7.5		15.0			
tert-Butylbenzene	3.0245 4.0662	3.2052 3.0850	3.4938	3.7639	3.6595	Ave		3.4712				11.1		15.0			
1,2,4-Trimethylbenzene	3.0395 4.0121	3.3058 3.2038	3.7381	3.8824	3.7648	Ave		3.5638				10.5		15.0			
sec-Butylbenzene	0.8282 1.1244	0.8879 0.8205	1.0032	1.0287	0.9893	Ave		0.9546				11.8		15.0			
4-Isopropyltoluene	3.4863 4.5063	3.6466 3.2390	4.1979	4.2246	4.0724	Ave		3.9104				11.7		15.0			
1,3-Dichlorobenzene	1.8420 1.8188	1.6912 1.5644	1.7510	1.7686	1.7255	Ave		1.7374				5.3		15.0			
1,4-Dichlorobenzene	2.0069 1.7684	1.7731 1.5378	1.7302	1.7577	1.6860	Ave		1.7514				8.0		15.0			
n-Butylbenzene	3.8579 4.5406	3.6915 3.2243	4.2572	4.1656	4.0645	Ave		3.9717				10.8		15.0			
1,2-Dichlorobenzene	1.4949 1.4752	1.3401 1.3264	1.3747	1.4442	1.4152	Ave		1.4101				4.6		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0495	++++ 0.0532	0.0257	0.0380	0.0415	Lin2	-0.052	0.0505							0.9950		0.9900
1,2,4-Trichlorobenzene	0.8231 0.9910	0.7388 0.8781	0.7948	0.8580	0.8732	Ave		0.8510				9.3		15.0			
Hexachlorobutadiene	0.7132 0.7195	0.6764 0.5281	0.7277	0.6432	0.6056	Ave		0.6591				11.1		15.0			
Naphthalene	++++ 1.3673	0.9595 1.2829	1.0917	1.1835	1.2040	Ave		1.1815				12.1		15.0			
1,2,3-Trichlorobenzene	0.6253 0.7694	0.6056 0.6903	0.6659	0.6772	0.6842	Ave		0.6740				7.8		15.0			
Dibromofluoromethane (Surr)	++++ 0.2444	0.2623 0.2295	0.2547	0.2403	0.2401	Ave		0.2452				4.8		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.2042	0.2530 0.1920	0.2329	0.2027	0.2024	Ave		0.2145				10.9		15.0			
Toluene-d8 (Surr)	++++ 4.9433	4.9752 4.1534	4.9328	4.8560	4.7626	Ave		4.7706				6.5		15.0			
4-Bromofluorobenzene (Surr)	++++ 1.1069	1.2134 0.9302	1.1678	1.0597	1.0528	Ave		1.0885				9.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-422809/57	P7947.D
Level 2	STD010 280-422809/58	P7948.D
Level 3	STD020 280-422809/59	P7949.D
Level 4	STD050 280-422809/60	P7950.D
Level 5	ICIS 280-422809/61	P7951.D
Level 6	STD30 280-422809/62	P7952.D
Level 7	STD60 280-422809/63	P7953.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	15715 1796301	44344 3483009	79580	276341	573041	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	11586 1262839	34517 2434756	66184	197706	395780	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	10901 1265536	34337 2384037	67778	201367	407919	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	10611 1007613	31670 1705460	63403	166469	335178	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	8961 993305	28720 1791449	57588	157043	321742	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	23597 2477570	68646 4845989	142192	378610	774532	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	20456 2230595	61903 4318628	121869	342474	693816	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	4486 476776	10415 1018103	23578	66445	145922	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Lin1	2565 455788	9050 994726	20401	60091	135766	3.00 300	10.00 600	20.0	50.0	100.0
Freon 113	FB	Ave	7991 1035079	27038 2109424	55256	162656	326306	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acetone	FB	Ave	++++ 306729	10132 605116	18530	47197	98734	++++ 120	4.00 240	8.00	20.0	40.0
1,1-Dichloroethene	FB	Ave	8635 1213985	29041 2466025	60387	184475	389196	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	14810 1692579	42339 3561222	85301	248416	514941	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	++++ 418700	12691 920744	24642	62090	133070	++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	14389 1962602	44865 3933356	92579	290113	618241	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	35998 4965799	113921 9725916	242419	762620	1595984	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	TBAd 9	Ave	++++ 206521	3805 454365	9820	25838	60780	++++ 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Lin2	25700 957560	42265 1986905	70793	166659	329383	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Lin2	5950 1067610	22461 2297440	49422	152167	335528	3.00 300	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	8906 1345446	27332 2970057	62295	180165	410390	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	10187 1221807	30410 2417122	64031	190623	385724	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	14828 2176688	47964 4182889	102497	322743	668465	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Lin1	6955 1374568	22947 2936593	50454	169357	389477	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	17337 2029465	52557 4113403	110855	315992	645238	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Butanone (MEK)	FB	Ave	++++ 545299	16641 1110158	29622	83612	168066	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	2832 510749	8605 1117265	17938	51241	131056	9.00 900	30.0 1800	60.0	150	300
cis-1,2-Dichloroethene	FB	Ave	9106 1159548	28383 2317800	60938	173533	362736	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2,2-Dichloropropane	FB	Ave	14030 1777650	37609 3769629	78675	241954	518751	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	2717 332961	8313 696109	18260	50609	108162	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	15693 1809544	47686 3648960	98496	279362	572248	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 145417	++++ 319360	6429	19246	43725	++++ 60.0	++++ 120	4.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Lin2	++++ 167377	4507 361012	8635	19286	49217	++++ 750	25.0 1500	50.0	125	250
1,1,1-Trichloroethane	FB	Ave	14813 1927913	44352 3957282	96020	284308	592609	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	22214 2546094	60669 4908937	129527	382653	787023	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	12009 1755743	41648 3331774	88560	262061	532190	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	11077 1676016	35530 3378548	76257	233351	497856	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	7331 874191	22866 1789637	47054	131920	278111	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	38684 4450193	116818 8490301	247431	694712	1405058	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Ave	14239 2145585	46588 3774841	105400	318241	640608	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	9360 1177852	28450 2239977	61209	173094	352315	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Lin2	++++ 719143	13352 1550568	29874	88732	208136	++++ 120	4.00 240	8.00	20.0	40.0
Methylcyclohexane	FB	Ave	14160 2037923	45544 3763436	102605	303495	618912	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	7893 944511	24513 1869712	52876	142765	300178	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin1	++++ 61116	++++ 124562	4891	7174	16140	++++ 600	++++ 1200	40.0	100	200
Dibromomethane	FB	Ave	2156 328747	7789 684244	16807	48875	102875	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	7170 1054792	23597 2176570	50262	145956	318349	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Lin1	++++ 173268	1864 397824	4990	16525	41862	++++ 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Lin1	6539 1149134	19629 2372384	46794	144116	328433	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Lin1	5939 1069039	19343 2196830	46698	136412	319048	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	43718 4616990	123420 8166021	261984	717577	1434926	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin1	1379 498444	7103 1073081	17246	56674	139220	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin1	3731 827055	13945 1729644	31584	98939	231604	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	3650 436831	10957 900764	24180	65558	138176	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Lin2	++++ 671116	11140 1390839	27352	82957	190453	++++ 120	4.00 240	8.00	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	6378 839209	20158 1700399	44684	122132	265903	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	7785 909357	22704 1550540	48654	133659	263220	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin1	3188 509111	9440 1089104	21490	63697	148717	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	2454 390671	8547 824534	18670	54207	122460	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	++++ 1699963	31719 2708872	76977	221660	465486	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	22809 2521026	69441 4673217	148093	385619	781927	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	13282 1687539	41740 2863318	92821	246392	501610	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	5075 797716	16709 1582468	35887	105670	228755	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	15533 2014564	49862 3486608	106999	289638	587550	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	11667 1859057	39879 3202983	96348	266908	554612	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Lin2	15753 2821810	54503 5019641	135258	388970	836904	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin1	++++ 215744	3361 487167	8037	25131	59338	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	37340 5329952	122114 ++++	277749	760664	1550074	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin1	1743 363712	5398 730421	20233	41813	97752	12.0 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	3233 435239	10587 917339	23173	63632	139827	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin1	++++ 107824	1910 239746	3713	12824	30469	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	++++ 121348	2795 254495	5690	17090	39204	++++ 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	8767 1480776	30310 2325515	74107	203057	417807	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	6675 908875	21356 1701886	49451	131761	276268	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	25811 4318641	91106 7013787	226552	600634	1231159	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	7727 1150766	28203 1970256	64148	163954	336542	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	7349 1132510	25180 1985301	60309	156701	327993	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	24898 4312611	90909 6875402	216385	583017	1198015	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	25022 4255211	93760 7140258	231512	601364	1232478	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422809

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_P GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/19/2018 10:37 Calibration End Date: 07/19/2018 12:30 Calibration ID: 33063

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Ave	6818 1192505	25184 1828565	62131	159338	323865	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	28700 4779389	103426 7218528	259986	654382	1333185	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	15164 1929007	47968 3486580	108446	273954	564884	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	16521 1875573	50290 3427329	107156	272260	551938	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	31759 4815756	104702 7185959	263661	645237	1330579	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	12306 1564656	38008 2956196	85138	223695	463295	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin2	++++ 52505	++++ 118669	1594	5886	13580	++++ 30.0	++++ 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	6776 1051036	20954 1956988	49227	132908	285851	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	5871 763080	19185 1177057	45071	99632	198244	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	++++ 1450145	27215 2859227	67613	183319	394152	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	5148 816057	17175 1538431	41242	104896	223983	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 822178	25171 1605391	50726	122974	256258	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 687048	24274 1343280	46374	103720	215985	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 3595490	102505 6279936	212457	530320	1098348	++++ 30.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 1173951	34416 2073017	72328	164148	344647	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419807/19	Q5010.D
Level 2	STD020 280-419807/20	Q5011.D
Level 3	STD050 280-419807/21	Q5016.D
Level 4	ICIS 280-419807/22	Q5013.D
Level 5	STD30 280-419807/23	Q5014.D
Level 6	STD60 280-419807/24	Q5015.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0014 0.0015	0.0017	0.0022	0.0019	0.0017	Qua	0.0183	0.0019	0						1.0000		0.9900
Ethanol	++++ 0.1067	0.1937	0.1503	0.1326	0.1237	Lin2	9.8978	0.1133							0.9960		0.9900
Propene oxide	0.0133 0.0094	0.0115	0.0137	0.0123	0.0107	Ave		0.0118				13.7		15.0			
2-Propanol	0.3785 0.8389	0.9133	0.9534	0.9000	0.8401	Lin1	-1.711	0.8568							0.9960		0.9900
Di-isopropyl ether (DIPE)	0.1641 0.1725	0.1503	0.1645	0.1576	0.1644	Ave		0.1622				4.6		15.0			
Chloroprene	0.4039 0.3914	0.4082	0.4197	0.4200	0.4188	Ave		0.4103				2.8		15.0			
Tert-butyl ethyl ether	0.4360 0.4542	0.3933	0.4411	0.4034	0.4219	Ave		0.4250				5.5		15.0			
Ethyl acetate	0.0572 0.0475	0.0420	0.0459	0.0467	0.0471	Ave		0.0477				10.6		15.0			
Propionitrile	0.0032 0.0085	0.0021	0.0043	0.0048	0.0063	Qua	-0.021	0.0042	0.0000072						1.0000		0.9900
Methacrylonitrile	0.0382 0.0418	0.0372	0.0423	0.0426	0.0417	Ave		0.0406				5.7		15.0			
Tert-amyl methyl ether	0.3096 0.3269	0.2877	0.3330	0.3022	0.3153	Ave		0.3124				5.3		15.0			
Methyl methacrylate	0.0156 0.0223	0.0171	0.0191	0.0195	0.0207	Ave		0.0191				12.7		15.0			
2-Nitropropane	0.0058 0.0057	0.0066	0.0040	0.0046	0.0051	Qua	0.0022	0.0044	0.0000114						1.0000		0.9900
Tetrahydrothiophene	0.0378 0.0578	0.0490	0.0521	0.0482	0.0515	Ave		0.0494				13.4		15.0			
cis-1,4-Dichloro-2-butene	0.0863 0.1184	0.0976	0.1005	0.1112	0.1103	Ave		0.1041				11.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,3-Trimethylbenzene	3.4555 3.0172	3.5063	3.5297	3.3956	3.7243	Ave		3.4381				6.8		15.0			
1,3,5-Trichlorobenzene	1.1670 1.1355	1.1280	1.2237	1.0409	1.3320	Ave		1.1712				8.4		15.0			
Dibromofluoromethane (Surr)	++++ 0.2317	0.2392	0.2181	0.2227	0.2321	Ave		0.2287				3.7		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.1618	0.1750	0.1606	0.1658	0.1626	Ave		0.1652				3.5		15.0			
Toluene-d8 (Surr)	6.5918 ++++	6.2236	5.3243	5.8069	5.3421	Ave		5.8577				9.5		15.0			
4-Bromofluorobenzene (Surr)	++++ 1.1960	1.4126	1.1633	1.2401	1.3600	Ave		1.2744				8.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419807/19	Q5010.D
Level 2	STD020 280-419807/20	Q5011.D
Level 3	STD050 280-419807/21	Q5016.D
Level 4	ICIS 280-419807/22	Q5013.D
Level 5	STD30 280-419807/23	Q5014.D
Level 6	STD60 280-419807/24	Q5015.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Qua	29248 1789177	69888	201537	401295	1058293	100 6000	200	500	1000	3000
Ethanol	TBAd 9	Lin2	++++ 291688	16984	33114	54012	165146	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	272525 11050202	469344	1241485	2648873	6657725	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Lin1	3020 382260	13346	35021	61105	186875	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	33622 2037466	61124	149552	339509	1018558	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	82753 4622596	165941	381652	904497	2594830	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	89316 5364063	159909	401087	868764	2614012	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	23418 1121570	34116	83393	201351	584167	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Qua	6475 1000187	8393	39074	102561	387275	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	78218 4935277	151271	384886	918442	2584913	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	63419 3861009	116953	302763	650909	1953485	1.00 60.0	2.00	5.00	10.0	30.0
Methyl methacrylate	FB	Ave	6395 526429	13917	34666	84039	257116	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Qua	2364 135635	5341	7303	19849	63464	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	3115 269900	7514	18431	38878	126087	2.00 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	8520 664845	16815	42782	100942	319205	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	170481 8468645	302145	751368	1541010	5389343	1.00 60.0	2.00	5.00	10.0	30.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,3,5-Trichlorobenzene	DCBd 4	Ave	57577 3187092	97204	260488	472397	1927439	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 2736087	97228	198277	479513	1437827	++++ 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 1910903	71167	145996	357075	1007386	++++ 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	271724 ++++	477219	941105	2343739	6542646	1.00 ++++	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 3357095	121725	247623	562812	1967997	++++ 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD  
Qua = Quadratic ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-422015/12	Q5624.D
Level 2	STD010 280-422015/13	Q5625.D
Level 3	STD020 280-422015/14	Q5626.D
Level 4	STD050 280-422015/15	Q5627.D
Level 5	STD10 280-422015/16	Q5628.D
Level 6	STD30 280-422015/17	Q5629.D
Level 7	STD60 280-422015/18	Q5630.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4938 0.5119	0.4266 0.5107	0.3789	0.5474	0.5517	Ave		0.4887				13.0		15.0			
Chloromethane	0.4941 0.4237	0.4858 0.4238	0.4540	0.5122	0.5068	Ave		0.4715			0.1000	8.0		15.0			
Vinyl chloride	0.3513 0.2818	0.3585 0.2671	0.3331	0.3655	0.3635	Ave		0.3315				12.3		30.0			
Bromomethane	0.3195 0.2456	0.2948 0.2188	0.2774	0.2840	0.2803	Ave		0.2743				12.0		15.0			
Chloroethane	0.2225 0.1841	0.2236 0.1649	0.2170	0.2121	0.2098	Ave		0.2049				10.8		15.0			
Dichlorofluoromethane	++++ 0.5758	0.6057 0.5385	0.6064	0.6164	0.6534	Ave		0.5994				6.5		15.0			
Trichlorofluoromethane	0.6513 0.6309	0.6736 0.6252	0.6623	0.6988	0.7215	Ave		0.6662				5.3		15.0			
Ethyl ether	0.1026 0.0922	0.1014 0.0712	0.0797	0.0983	0.0928	Ave		0.0912				12.8		15.0			
Acrolein	++++ 0.0116	0.0086 0.0132	0.0087	0.0106	0.0118	Lin2	-0.042	0.0121							0.9920		0.9900
Acetone	++++ 0.0170	0.0226 0.0161	0.0214	0.0182	0.0177	Ave		0.0188				13.7		15.0			
Freon 113	0.2063 0.2278	0.1993 0.2716	0.2164	0.2157	0.2489	Ave		0.2266				11.3		15.0			
1,1-Dichloroethene	0.2971 0.3163	0.2805 0.3515	0.2855	0.3015	0.3286	Ave		0.3087				8.2		30.0			
Iodomethane	0.3490 0.4233	0.3350 0.4863	0.3642	0.4019	0.4332	Ave		0.3990				13.4		15.0			
Methyl acetate	++++ 0.0434	0.0631 0.0411	0.0472	0.0434	0.0516	Lin1	0.0407	0.0420							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.4716 0.4798	0.5380 0.4593	0.4922	0.5224	0.5542	Ave		0.5025				7.2		15.0			
Carbon disulfide	++++ 1.3361	1.2866 1.4305	1.2803	1.3639	1.4420	Ave		1.3566				5.1		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	0.8082 1.2732	1.1196 1.3393	1.1064	1.2211	1.2327	Lin2	-1.398	1.2608							0.9980		0.9900
Methylene Chloride	0.6534 0.2434	0.3409 0.2677	0.3004	0.2674	0.2719	Lin2	0.1196	0.2464							0.9950		0.9900
Acrylonitrile	++++ 0.0215	0.0127 0.0235	0.0145	0.0187	0.0225	Lin2	-0.108	0.0222							0.9920		0.9900
Methyl tert-butyl ether	0.2133 0.2748	0.2328 0.3073	0.2315	0.2572	0.2961	Ave		0.2590				13.7		15.0			
trans-1,2-Dichloroethene	0.2709 0.3043	0.2849 0.3278	0.2728	0.2923	0.3115	Ave		0.2949				7.1		15.0			
Hexane	2.5437 2.7689	2.6940 2.3526	2.5390	2.9934	3.0972	Ave		2.7127				9.7		15.0			
Vinyl acetate	0.1304 0.1923	0.1319 0.1866	0.1372	0.1726	0.1903	Lin1	-0.069	0.1885							0.9980		0.9900
1,1-Dichloroethane	0.5504 0.5707	0.5790 0.5541	0.5680	0.5890	0.6237	Ave		0.5764			0.1000	4.3		15.0			
Methyl ethyl ketone (MEK)	++++ 0.0310	0.0301 0.0297	0.0328	0.0304	0.0333	Ave		0.0312				4.8		15.0			
sec-Butyl Alcohol	++++ 1.0547	0.8171 1.0201	0.7318	0.9172	1.0583	Ave		0.9332				14.6		15.0			
cis-1,2-Dichloroethene	0.2640 0.2958	0.2657 0.3034	0.2647	0.2793	0.3085	Ave		0.2830				6.8		15.0			
2,2-Dichloropropane	0.4591 0.4238	0.4325 0.4451	0.4182	0.4332	0.4562	Ave		0.4383				3.6		15.0			
Chlorobromomethane	0.0601 0.0827	0.0676 0.0879	0.0650	0.0733	0.0839	Ave		0.0744				14.3		15.0			
Chloroform	0.4631 0.5135	0.4862 0.4975	0.4732	0.5102	0.5494	Ave		0.4990				5.8		30.0			
Tetrahydrofuran	++++ 0.0158	++++ 0.0160	0.0109	0.0147	0.0158	Ave		0.0146				14.8		15.0			
Isobutyl alcohol	++++ 0.3633	++++ 0.3797	0.2456	0.2746	0.3086	Lin2	-6.404	0.3579							0.9920		0.9900
1,1,1-Trichloroethane	0.4595 0.5310	0.5004 0.5722	0.4884	0.5251	0.5616	Ave		0.5197				7.7		15.0			
Cyclohexane	++++ 0.6562	++++ 0.6084	0.6334	0.6850	0.7402	Ave		0.6574				7.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.4571 0.5524	0.5092 0.4850	0.4899	0.5361	0.5896	Ave		0.5170				8.8		15.0			
Carbon tetrachloride	0.3380 0.4729	0.3913 0.5184	0.3985	0.4260	0.4777	Ave		0.4318				14.3		15.0			
1,2-Dichloroethane	0.2371 0.2572	0.2552 0.2433	0.2420	0.2593	0.2790	Ave		0.2533				5.6		15.0			
Benzene	1.1708 1.2743	1.2476 1.1322	1.1800	1.2884	1.3955	Ave		1.2413				7.2		15.0			
n-Heptane	0.6102 0.6619	0.7031 0.5377	0.6969	0.7496	0.8032	Ave		0.6804				12.9		15.0			
Trichloroethene	0.3293 0.3780	0.3293 0.3611	0.3133	0.3483	0.3770	Ave		0.3484				7.1		15.0			
2-Pentanone	++++ 0.0504	0.0398 0.0454	0.0358	0.0414	0.0544	Lin1	-0.042	0.0478							0.9930		0.9900
1,2-Dichloropropane	0.2951 0.2896	0.2946 0.2428	0.2867	0.3023	0.3355	Ave		0.2924				9.3		30.0			
Methylcyclohexane	0.4816 0.5443	0.5545 0.4969	0.5605	0.5902	0.6292	Ave		0.5510				9.2		15.0			
1,4-Dioxane	++++ 0.0007	++++ 0.0008	0.0004	0.0006	0.0007	Lin2	-0.013	0.0007							0.9970		0.9900
Dibromomethane	0.0739 0.0912	0.0835 0.0925	0.0809	0.0880	0.0959	Ave		0.0865				8.8		15.0			
Dichlorobromomethane	0.2675 0.3341	0.2840 0.3237	0.2762	0.3114	0.3503	Ave		0.3067				10.3		15.0			
cis-1,3-Dichloropropene	1.1690 1.6980	1.3117 1.5921	1.3065	1.5806	1.7670	Lin2	-0.150	1.6000							0.9910		0.9900
4-Methyl-2-pentanone (MIBK)	0.0535 0.0737	0.0606 0.0696	0.0600	0.0671	0.0773	Ave		0.0660				12.7		15.0			
Toluene	1.3285 1.3402	1.3469 ++++	1.3269	1.3797	1.5452	Ave		1.3779				6.1		30.0			
Ethyl methacrylate	0.3448 0.6410	0.3924 0.6144	0.4077	0.5062	0.6288	Lin1	-0.158	0.6217							0.9970		0.9900
trans-1,3-Dichloropropene	0.1687 0.2770	0.1982 0.2684	0.1968	0.2338	0.2877	Lin1	-0.053	0.2721							0.9980		0.9900
1,1,2-Trichloroethane	0.1174 0.1273	0.1151 0.1297	0.1103	0.1174	0.1357	Ave		0.1218				7.5		15.0			
Methyl n-butyl ketone (MNBK)	0.1287 0.2169	0.1478 0.1956	0.1552	0.1886	0.2116	Lin1	-0.139	0.2035							0.9970		0.9900
1,3-Dichloropropane	0.9141 1.1219	1.0374 1.0307	1.0016	1.1198	1.2119	Ave		1.0625				9.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	0.9962 1.2876	1.0716 1.2333	1.0365	1.1420	1.2425	Ave		1.1442				9.9		15.0			
Chlorodibromomethane	0.4497 0.6866	0.5200 0.6850	0.4896	0.5755	0.6801	Lin1	-0.134	0.6828							0.9980		0.9900
1,2-Dibromoethane	0.3391 0.5032	0.3967 0.5036	0.3997	0.4533	0.5098	Ave		0.4436				15.0		15.0			
1-Chlorohexane	1.8213 2.7119	2.1306 2.4135	2.1900	2.4759	2.7639	Ave		2.3582				14.2		15.0			
Chlorobenzene	3.0256 3.5378	3.3350 3.1944	3.2234	3.4295	3.7043	Ave		3.3500			0.3000	6.8		15.0			
1,1,1,2-Tetrachloroethane	0.6856 1.0442	0.7711 0.9680	0.7838	0.9249	1.0429	Lin2	-0.095	0.9592							0.9900		0.9900
Ethylbenzene	1.8474 2.3397	2.0183 ++++	1.9973	2.2134	2.4611	Ave		2.1462				10.8		30.0			
m-Xylene & p-Xylene	++++ 2.8220	2.3927 2.5075	2.3879	2.5895	2.9000	Ave		2.6000				8.4		15.0			
o-Xylene	1.7191 2.2619	2.0473 1.8984	2.0608	2.3377	2.5318	Ave		2.1224				13.0		15.0			
Styrene	2.2940 3.3573	2.7887 ++++	2.8247	3.3636	3.7518	Lin2	-0.354	3.3683							0.9910		0.9900
Bromoform	++++ 0.2598	0.1668 0.2792	0.1804	0.2073	0.2509	Lin2	-0.106	0.2568			0.1000				0.9900		0.9900
Isopropylbenzene	4.5128 5.4633	5.0889 ++++	4.9726	5.5602	5.8906	Ave		5.2481				9.3		15.0			
Cyclohexanone	0.0049 0.0093	0.0062 0.0091	0.0066	0.0082	0.0094	Lin1	-0.082	0.0092							0.9990		0.9900
1,1,2,2-Tetrachloroethane	0.3835 0.4346	0.4058 0.4116	0.3788	0.4313	0.4574	Ave		0.4147			0.3000	6.9		15.0			
trans-1,4-Dichloro-2-butene	++++ 0.0881	0.0399 0.0902	0.0497	0.0702	0.0834	Lin2	-0.052	0.0864							0.9910		0.9900
1,2,3-Trichloropropane	++++ 0.1012	0.0855 0.0986	0.0871	0.0948	0.1006	Ave		0.0946				7.2		15.0			
N-Propylbenzene	++++ 1.6047	1.3545 1.3819	1.2954	1.4830	1.6034	Ave		1.4538				9.0		15.0			
Bromobenzene	++++ 0.9162	0.7569 0.8285	0.7309	0.7983	0.8893	Ave		0.8200				8.9		15.0			
1,3,5-Trimethylbenzene	3.2314 4.2493	3.8848 ++++	3.8764	4.1794	4.6040	Ave		4.0042				11.6		15.0			
2-Chlorotoluene	1.09726 1.2188	1.0968 ++++	1.0530	1.1307	1.2211	Ave		1.1155				8.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
4-Chlorotoluene	++++ 1.1949	1.0384 1.1142	0.9749	1.0855	1.1746	Ave		1.0971				7.6		15.0			
tert-Butylbenzene	++++ 4.3393	3.8801 3.7150	3.8430	4.3275	4.5495	Ave		4.1091				8.2		15.0			
1,2,4-Trimethylbenzene	++++ 4.0836	3.8838 3.4187	3.7478	4.1097	4.3435	Ave		3.9312				8.2		15.0			
sec-Butylbenzene	++++ 1.1819	0.9665 1.1052	0.9980	1.0814	1.1878	Ave		1.0868				8.4		15.0			
4-Isopropyltoluene	++++ 4.6865	4.3118 3.8285	4.3204	4.6569	4.9919	Ave		4.4660				9.0		15.0			
1,3-Dichlorobenzene	1.5062 1.7739	1.6106 1.7320	1.6128	1.6949	1.7960	Ave		1.6752				6.2		15.0			
1,4-Dichlorobenzene	1.6645 1.6858	1.6629 1.6738	1.5779	1.6563	1.7526	Ave		1.6677				3.1		15.0			
n-Butylbenzene	4.0119 4.7310	4.6374 ++++	4.9087	5.0523	5.4008	Ave		4.7904				9.7		15.0			
1,2-Dichlorobenzene	1.0925 1.3233	1.1982 1.3267	1.2212	1.2521	1.3812	Ave		1.2565				7.7		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0438	++++ 0.0462	0.0300	0.0356	0.0427	Lin2	-0.032	0.0452							0.9970		0.9900
1,2,4-Trichlorobenzene	++++ 0.7741	0.6255 0.7727	0.6231	0.6687	0.7782	Ave		0.7070				10.8		15.0			
Hexachlorobutadiene	0.6089 0.7401	0.6410 0.7739	0.6491	0.6557	0.7223	Ave		0.6844				8.9		15.0			
Naphthalene	++++ 0.9116	0.6120 0.9187	0.6695	0.7682	0.9277	Lin2	-0.333	0.9040							0.9950		0.9900
1,2,3-Trichlorobenzene	++++ 0.5337	0.4524 0.5431	0.4400	0.4766	0.5583	Ave		0.5007				10.1		15.0			
Dibromofluoromethane (Surr)	++++ 0.2369	0.2498 0.2465	0.2388	0.2457	0.2510	Ave		0.2448				2.3		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.2080	0.2588 0.2135	0.2310	0.2504	0.2512	Ave		0.2355				9.0		15.0			
Toluene-d8 (Surr)	++++ 5.2627	6.1783 ++++	5.8605	6.1125	5.9536	Ave		5.8735				6.2		15.0			
4-Bromofluorobenzene (Surr)	++++ 1.3062	1.5087 1.2427	1.3112	1.3762	1.3607	Ave		1.3510				6.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-422015/12	Q5624.D
Level 2	STD010 280-422015/13	Q5625.D
Level 3	STD020 280-422015/14	Q5626.D
Level 4	STD050 280-422015/15	Q5627.D
Level 5	STD10 280-422015/16	Q5628.D
Level 6	STD30 280-422015/17	Q5629.D
Level 7	STD60 280-422015/18	Q5630.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	27967 3729864	80529 7263525	139099	527216	1136738	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	27982 3087353	91703 6027060	166675	493293	1044251	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	19897 2053451	67677 3798299	122297	352032	748949	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	18095 1789601	55651 3111520	101854	273516	577470	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	12603 1341681	42205 2345867	79676	204251	432220	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	++++ 4195874	114331 7659033	222615	593606	1346316	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	36888 4596920	127162 8891303	243128	672981	1486608	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	5810 672071	19135 1013169	29263	94686	191215	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Lin2	++++ 845463	16167 1880757	31874	102086	243951	++++ 300	10.00 600	20.0	50.0	100.0
Acetone	FB	Ave	++++ 496015	17101 915821	31395	70212	146069	++++ 120	4.00 240	8.00	20.0	40.0
Freon 113	FB	Ave	11683 1659885	37613 3862776	79450	207711	512913	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	16825 2304450	52952 4999198	104813	290348	677062	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	19766 3084359	63228 6916431	133709	387079	892556	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin1	++++ 632664	23809 1169584	34621	83520	212745	++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	26708 3496260	101561 6532416	180675	503088	1141904	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	++++ 9735543	242868 20345919	470018	1313553	2971217	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	TBAd 9	Lin2	1486 327236	7263 688363	15109	41723	97189	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Lin2	37005 1773406	64357 3807185	110280	257515	560192	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Lin2	++++ 1567493	23991 3345783	53320	179662	464036	++++ 300	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	12078 2002055	43945 4370606	84969	247695	610187	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	15342 2217235	53785 4662743	100149	281540	641761	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	31157 4585280	108778 7904390	204063	617704	1438931	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Lin1	14771 2802213	49809 5309256	100747	332363	784277	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	31175 4158847	109295 7880089	208505	567214	1285247	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	++++ 904076	22720 1687052	48126	117186	274506	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 813228	15902 1572921	29982	94021	250322	++++ 900	30.0 1800	60.0	150	300
cis-1,2-Dichloroethene	FB	Ave	14950 2155198	50161 4314837	97162	268959	635726	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2,2-Dichloropropane	FB	Ave	26004 3087936	81650 6330931	153523	417178	940020	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	3402 602687	12767 1250647	23849	70631	172788	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	26228 3741378	91783 7076059	173700	491335	1132120	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 230284	++++ 453749	7969	28336	65231	++++ 60.0	++++ 120	4.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Lin2	++++ 233427	++++ 487827	8384	23460	60827	++++ 750	++++ 1500	50.0	125	250
1,1,1-Trichloroethane	FB	Ave	26025 3869306	94457 8137953	179278	505666	1157133	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	++++ 4781377	117308 8652893	232517	659722	1525166	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	25891 4024868	96123 6897422	179862	516266	1214937	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	19143 3446076	73865 7373042	146310	410291	984306	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	13428 1874476	48169 3460429	88848	249750	574937	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	66314 9285169	235515 16102739	433181	1240835	2875550	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Ave	34563 4822798	132724 7647294	255838	721920	1654944	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	18649 2754372	62683 5136411	115020	335410	776923	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Lin1	++++ 1468489	30028 2583547	52610	159344	448323	++++ 120	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	16713 2110305	55608 3453036	105264	291181	691347	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	27277 3966459	104669 7067049	205777	568447	1296539	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	++++ 99136	++++ 213792	3117	10791	27805	++++ 600	++++ 1200	40.0	100	200
Dibromomethane	FB	Ave	4183 664490	15755 1315655	29704	84708	197692	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	15149 2434151	53604 4603287	101395	299856	721839	0.300 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Lin2	14318 2811812	52963 5349150	105007	326159	820905	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	12110 2146884	45740 3960175	88171	258590	637454	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	75243 9765881	254249 ++++	487135	1328722	3184035	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin1	4223 1061461	15843 2064323	32767	104460	292137	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin1	9555 2018176	37409 3816829	72262	225162	592721	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	6648 927428	21730 1844687	40482	113032	279529	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Lin1	6307 1436607	23866 2628553	49888	155689	393252	1.20 120	4.00 240	8.00	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	11196 1857836	41888 3462919	80501	231079	563044	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	12202 2132177	43269 4143556	83309	235652	577271	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin1	5508 1137045	20995 2301381	39351	118754	315984	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	4154 833315	16016 1691969	32127	93540	236843	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1-Chlorohexane	CBNZ d5	Ave	22308 4490790	86027 8108951	176019	510910	1284082	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	37059 5858606	134657 10732719	259077	707689	1720973	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Lin2	8398 1729151	31134 3252433	62998	190848	484521	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	22628 3874433	81493 +++++	160527	456746	1143380	0.300 30.0	1.00 +++++	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	+++++ 4673256	96611 8424771	191925	534357	1347291	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	21056 3745718	82665 6378183	165635	482383	1176235	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Lin2	28098 5559679	112600 +++++	227025	694095	1743042	0.300 30.0	1.00 +++++	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin2	+++++ 430198	6733 938220	14498	42779	116575	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	60702 10711747	240911 +++++	485873	1399594	3360481	0.300 30.0	1.00 +++++	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin1	2420 614373	10089 1228800	21367	67650	175115	12.0 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	5158 852170	19212 1712080	37009	108553	260932	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin2	+++++ 172833	1891 375009	4856	17667	47579	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	+++++ 198355	4047 410338	8510	23875	57383	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	+++++ 3146389	64123 5748109	126570	373288	914734	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	+++++ 1796458	35834 3446375	71413	200954	507320	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	43466 8331409	183908 +++++	378763	1052022	2626493	0.300 30.0	1.00 +++++	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	13082 2389605	51924 +++++	102889	284611	696608	0.300 30.0	1.00 +++++	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	+++++ 2342886	49157 4634757	95252	273240	670064	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	+++++ 8507945	183686 15452949	375492	1089289	2595431	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	+++++ 8006677	183860 14220274	366193	1034486	2477892	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	+++++ 2317256	45755 4597304	97517	272201	677602	+++++ 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111864-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
4-Isopropyltoluene	DCBd 4	Ave	++++ 9188690	204125 15924979	422141	1172207	2847798	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	20260 3478055	76245 7204516	157581	426625	1024602	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	22390 3305251	78721 6962072	154177	416913	999818	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	53965 9275995	219539 ++++	479625	1271752	3081029	0.300 30.0	1.00 ++++	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14695 2594647	56723 5518415	119321	315163	787964	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin2	++++ 85935	++++ 192120	2935	8957	24333	++++ 30.0	++++ 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	++++ 1517799	29610 3213940	60885	168319	443927	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	8190 1451029	30347 3219111	63419	165053	412051	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin2	++++ 1787318	28971 3821448	65413	193368	529258	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	++++ 1046447	21415 2258875	42996	119967	318514	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 1726139	47162 3505443	87674	236624	517129	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 1515688	48847 3036902	84793	241193	517537	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 8715007	249464 ++++	471020	1261331	2765977	++++ 30.0	1.00 ++++	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 2561071	71423 5169288	128120	346417	776263	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419732/26 Calibration Date: 06/23/2018 17:23  
Instrument ID: VMS\_P Calib Start Date: 03/09/2018 14:32  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 03/09/2018 16:09  
Lab File ID: P7475.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrahydrothiophene	Lin1		0.0656			20.0		55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419732/26 Calibration Date: 06/23/2018 17:23  
 Instrument ID: VMS\_P Calib Start Date: 06/23/2018 15:11  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/23/2018 16:45  
 Lab File ID: P7475.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Ave	0.0025	0.0027		1070	1000	7.2	55.0
Ethanol	Ave	0.1598	0.1468		551	600	-8.1	55.0
Propene oxide	Ave	0.0183	0.0199		1090	1000	8.7	
2-Propanol	Ave	0.7808	0.7332		93.9	100	-6.1	55.0
Acetonitrile	Ave	0.0072	0.0068		94.5	100	-5.5	55.0
Di-isopropyl ether (DIPE)	Ave	0.1801	0.1838		10.2	10.0	2.0	35.0
Chloroprene	Ave	0.4314	0.4113		9.53	10.0	-4.7	35.0
Tert-butyl ethyl ether	Ave	0.5008	0.4882		9.75	10.0	-2.5	35.0
Ethyl acetate	Ave	0.0452	0.0469		20.8	20.0	3.8	55.0
Propionitrile	Ave	0.0090	0.0090		99.3	100	-0.7	55.0
Methacrylonitrile	Ave	0.0366	0.0355		97.2	100	-2.8	55.0
Tert-amyl methyl ether	Ave	0.4001	0.3890		9.72	10.0	-2.8	35.0
n-Butanol	Lin1		0.2928		228	250	-8.9	55.0
Methyl methacrylate	Lin2		0.0183		18.2	20.0	-8.8	35.0
2-Nitropropane	Ave	0.0057	0.0065		22.9	20.0	14.7	55.0
cis-1,4-Dichloro-2-butene	Ave	0.0994	0.0970		19.5	20.0	-2.5	55.0
1,2,3-Trimethylbenzene	Ave	3.888	3.207		8.25	10.0	-17.5	35.0
1,3,5-Trichlorobenzene	Ave	1.199	0.9682		8.08	10.0	-19.2	50.0
Dibromofluoromethane (Surr)	Ave	0.2104	0.1996		9.48	10.0	-5.2	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1796	0.1677		9.33	10.0	-6.7	35.0
Toluene-d8 (Surr)	Ave	5.833	5.280		9.05	10.0	-9.5	35.0
4-Bromofluorobenzene (Surr)	Ave	1.244	1.105		8.88	10.0	-11.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-422809/64 Calibration Date: 07/19/2018 13:08

Instrument ID: VMS\_P Calib Start Date: 07/19/2018 10:37

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/19/2018 12:30

Lab File ID: P7955.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.5021	0.4258		8.48	10.0	-15.2	55.0
Chloromethane	Ave	0.3677	0.3519	0.1000	9.57	10.0	-4.3	35.0
Vinyl chloride	Ave	0.3669	0.3566		9.72	10.0	-2.8	35.0
Bromomethane	Ave	0.3141	0.3089		9.83	10.0	-1.7	35.0
Chloroethane	Ave	0.2941	0.2987		10.2	10.0	1.6	35.0
Dichlorofluoromethane	Ave	0.7345	0.7363		10.0	10.0	0.2	55.0
Trichlorofluoromethane	Ave	0.6522	0.6459		9.90	10.0	-1.0	50.0
Ethyl ether	Ave	0.1337	0.1508		11.3	10.0	12.8	35.0
Acrolein	Lin1		0.0125		92.4	100	-7.6	55.0
Acetone	Ave	0.0234	0.0252		43.1	40.0	7.8	55.0
Freon 113	Ave	0.2956	0.3107		10.5	10.0	5.1	55.0
1,1-Dichloroethene	Ave	0.3348	0.3644		10.9	10.0	8.8	35.0
Iodomethane	Ave	0.4804	0.5291		11.0	10.0	10.1	35.0
Methyl acetate	Ave	0.0632	0.0602		47.6	50.0	-4.8	55.0
Allyl chloride	Ave	0.5318	0.5766		10.8	10.0	8.4	35.0
Carbon disulfide	Ave	1.358	1.478		10.9	10.0	8.8	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.372	1.231		89.8	100	-10.2	55.0
Methylene Chloride	Lin2		0.3060		10.3	10.0	3.4	35.0
Acrylonitrile	Lin2		0.0313		104	100	4.3	55.0
Methyl tert-butyl ether	Ave	0.3525	0.3954		11.2	10.0	12.2	35.0
trans-1,2-Dichloroethene	Ave	0.3477	0.3746		10.8	10.0	7.7	35.0
Hexane	Ave	2.674	3.039		11.4	10.0	13.6	35.0
Vinyl acetate	Lin1		0.2195		22.0	20.0	10.0	55.0
1,1-Dichloroethane	Ave	0.5884	0.6105	0.1000	10.4	10.0	3.8	35.0
2-Butanone (MEK)	Ave	0.0402	0.0427		42.5	40.0	6.3	55.0
sec-Butyl Alcohol	Ave	1.006	0.9518		284	300	-5.4	
cis-1,2-Dichloroethene	Ave	0.3246	0.3466		10.7	10.0	6.8	35.0
2,2-Dichloropropane	Ave	0.4713	0.4982		10.6	10.0	5.7	35.0
Chlorobromomethane	Ave	0.0959	0.0999		10.4	10.0	4.2	35.0
Chloroform	Ave	0.5253	0.5350		10.2	10.0	1.9	35.0
Tetrahydrofuran	Ave	0.0200	0.0213		21.3	20.0	6.4	55.0
Isobutyl alcohol	Lin2		0.3820		216	250	-13.6	55.0
1,1,1-Trichloroethane	Ave	0.5296	0.5557		10.5	10.0	4.9	35.0
Cyclohexane	Ave	0.7137	0.7691		10.8	10.0	7.8	35.0
1,1-Dichloropropene	Ave	0.4720	0.5271		11.2	10.0	11.7	35.0
Carbon tetrachloride	Ave	0.4344	0.4638		10.7	10.0	6.8	35.0
1,2-Dichloroethane	Ave	0.2518	0.2568		10.2	10.0	2.0	35.0
Benzene	Ave	1.287	1.341		10.4	10.0	4.2	35.0
n-Heptane	Ave	0.5582	0.6495		11.6	10.0	16.3	50.0
Trichloroethene	Ave	0.3238	0.3433		10.6	10.0	6.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-422809/64 Calibration Date: 07/19/2018 13:08

Instrument ID: VMS\_P Calib Start Date: 07/19/2018 10:37

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/19/2018 12:30

Lab File ID: P7955.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Lin2		0.0511		41.1	40.0	2.7	55.0
Methylcyclohexane	Ave	0.5425	0.5979		11.0	10.0	10.2	35.0
1,2-Dichloropropane	Ave	0.2718	0.2904		10.7	10.0	6.8	35.0
1,4-Dioxane	Lin1		0.0008		185	200	-7.6	55.0
Dibromomethane	Ave	0.0897	0.0941		10.5	10.0	5.0	35.0
Dichlorobromomethane	Ave	0.2793	0.2974		10.6	10.0	6.5	35.0
2-Chloroethyl vinyl ether	Lin1		0.0473		9.65	10.0	-3.5	55.0
cis-1,3-Dichloropropene	Lin1		1.531		10.1	10.0	0.8	35.0
4-Methyl-2-pentanone (MIBK)	Lin1		0.0753		39.4	40.0	-1.6	55.0
Toluene	Ave	1.343	1.396		10.4	10.0	3.9	35.0
Ethyl methacrylate	Lin1		0.6156		9.29	10.0	-7.1	35.0
trans-1,3-Dichloropropene	Lin1		0.2257		9.57	10.0	-4.3	35.0
1,1,2-Trichloroethane	Ave	0.1255	0.1311		10.4	10.0	4.5	35.0
Methyl n-butyl ketone (MNBK)	Lin2		0.2145		40.5	40.0	1.2	55.0
1,3-Dichloropropane	Ave	1.085	1.138		10.5	10.0	4.8	35.0
Tetrachloroethene	Ave	1.162	1.212		10.4	10.0	4.3	35.0
Chlorodibromomethane	Lin1		0.6360		9.25	10.0	-7.5	35.0
1,2-Dibromoethane	Ave	0.4793	0.5210		10.9	10.0	8.7	35.0
1-Chlorohexane	Ave	1.917	2.282		11.9	10.0	19.0	35.0
Chlorobenzene	Ave	3.425	3.474	0.3000	10.1	10.0	1.4	35.0
1,1,1,2-Tetrachloroethane	Ave	0.9383	1.024		10.9	10.0	9.2	35.0
Ethylbenzene	Ave	2.139	2.286		10.7	10.0	6.9	35.0
m-Xylene & p-Xylene	Ave	2.528	2.734		10.8	10.0	8.2	35.0
o-Xylene	Ave	2.226	2.509		11.3	10.0	12.7	35.0
Styrene	Lin2		3.691		10.7	10.0	6.6	35.0
Bromoform	Lin1		0.2472	0.1000	8.62	10.0	-13.8	35.0
Isopropylbenzene	Ave	4.666	5.205		11.2	10.0	11.6	35.0
Cyclohexanone	Lin1		0.0104		356	400	-11.1	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4000	0.4279	0.3000	10.7	10.0	7.0	35.0
trans-1,4-Dichloro-2-butene	Lin1		0.0978		9.86	10.0	-1.4	55.0
1,2,3-Trichloropropane	Ave	0.1082	0.1180		10.9	10.0	9.0	35.0
N-Propylbenzene	Ave	1.194	1.423		11.9	10.0	19.2	35.0
Bromobenzene	Ave	0.8111	0.8623		10.6	10.0	6.3	35.0
1,3,5-Trimethylbenzene	Ave	3.552	4.158		11.7	10.0	17.1	35.0
2-Chlorotoluene	Ave	1.003	1.103		11.0	10.0	10.0	35.0
4-Chlorotoluene	Ave	0.9609	1.074		11.2	10.0	11.8	35.0
tert-Butylbenzene	Ave	3.471	4.040		11.6	10.0	16.4	35.0
1,2,4-Trimethylbenzene	Ave	3.564	4.048		11.4	10.0	13.6	35.0
sec-Butylbenzene	Ave	0.9546	1.128		11.8	10.0	18.1	35.0
4-Isopropyltoluene	Ave	3.910	4.564		11.7	10.0	16.7	35.0
1,3-Dichlorobenzene	Ave	1.737	1.830		10.5	10.0	5.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-422809/64 Calibration Date: 07/19/2018 13:08  
 Instrument ID: VMS\_P Calib Start Date: 07/19/2018 10:37  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/19/2018 12:30  
 Lab File ID: P7955.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Ave	1.751	1.806		10.3	10.0	3.1	35.0
n-Butylbenzene	Ave	3.972	4.630		11.7	10.0	16.6	35.0
1,2-Dichlorobenzene	Ave	1.410	1.491		10.6	10.0	5.7	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0435		9.66	10.0	-3.4	55.0
1,2,4-Trichlorobenzene	Ave	0.8510	0.9513		11.2	10.0	11.8	35.0
Hexachlorobutadiene	Ave	0.6591	0.7254		11.0	10.0	10.1	35.0
Naphthalene	Ave	1.181	1.327		11.2	10.0	12.4	35.0
1,2,3-Trichlorobenzene	Ave	0.6740	0.7474		11.1	10.0	10.9	35.0
Dibromofluoromethane (Surr)	Ave	0.2452	0.2477		10.1	10.0	1.0	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2145	0.2072		9.66	10.0	-3.4	35.0
Toluene-d8 (Surr)	Ave	4.771	5.026		10.5	10.0	5.3	35.0
4-Bromofluorobenzene (Surr)	Ave	1.088	1.161		10.7	10.0	6.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
Instrument ID: VMS\_Q Calib Start Date: 06/22/2017 02:52  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/22/2017 04:37  
Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butanol	Ave	0.3936				250		



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
Instrument ID: VMS\_Q Calib Start Date: 04/11/2018 18:18  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 04/11/2018 20:02  
Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Lin					100	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
 Instrument ID: VMS\_Q Calib Start Date: 06/25/2018 12:56  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/25/2018 15:14  
 Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Qua		0.0023		1230	1000	23.2	55.0
Ethanol	Lin2		0.1579		749	600	24.8	55.0
Propene oxide	Ave	0.0118	0.0149		1260	1000	25.7	
2-Propanol	Lin1		0.7697		91.8	100	-8.2	55.0
Di-isopropyl ether (DIPE)	Ave	0.1622	0.1637		10.1	10.0	0.9	35.0
Chloroprene	Ave	0.4103	0.4391		10.7	10.0	7.0	35.0
Tert-butyl ethyl ether	Ave	0.4250	0.4373		10.3	10.0	2.9	35.0
Ethyl acetate	Ave	0.0477	0.0536		22.5	20.0	12.4	55.0
Propionitrile	Qua		0.0054		112	100	12.2	55.0
Methacrylonitrile	Ave	0.0406	0.0439		108	100	8.0	55.0
Tert-amyl methyl ether	Ave	0.3124	0.3197		10.2	10.0	2.3	35.0
Methyl methacrylate	Ave	0.0191	0.0187		19.6	20.0	-1.8	35.0
2-Nitropropane	Qua		0.0052		21.9	20.0	9.4	55.0
Tetrahydrothiophene	Ave	0.0494	0.0780		31.6	20.0	58.0*	55.0
cis-1,4-Dichloro-2-butene	Ave	0.1041	0.1004		19.3	20.0	-3.5	55.0
1,2,3-Trimethylbenzene	Ave	3.438	3.319		9.65	10.0	-3.5	35.0
1,3,5-Trichlorobenzene	Ave	1.171	1.012		8.64	10.0	-13.6	50.0
Dibromofluoromethane (Surr)	Ave	0.2287	0.2240		9.79	10.0	-2.1	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1652	0.1630		9.87	10.0	-1.3	35.0
Toluene-d8 (Surr)	Ave	5.858	5.554		9.48	10.0	-5.2	35.0
4-Bromofluorobenzene (Surr)	Ave	1.274	1.226		9.62	10.0	-3.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-422015/19 Calibration Date: 07/12/2018 17:11  
Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02  
Lab File ID: Q5632.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Lin1					10.0	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-422015/19 Calibration Date: 07/12/2018 17:11  
 Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
 Lab File ID: Q5632.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4887	0.4650		9.52	10.0	-4.8	55.0
Chloromethane	Ave	0.4715	0.4124	0.1000	8.75	10.0	-12.5	35.0
Vinyl chloride	Ave	0.3315	0.3194		9.63	10.0	-3.7	35.0
Bromomethane	Ave	0.2743	0.2563		9.34	10.0	-6.6	35.0
Chloroethane	Ave	0.2049	0.1922		9.38	10.0	-6.2	35.0
Dichlorofluoromethane	Ave	0.5994	0.6072		10.1	10.0	1.3	55.0
Trichlorofluoromethane	Ave	0.6662	0.6602		9.91	10.0	-0.9	50.0
Acrolein	Lin2		0.0106		91.6	100	-8.4	55.0
Acetone	Ave	0.0188	0.0175		37.1	40.0	-7.3	55.0
Vinyl acetate	Lin1		0.1957		21.1	20.0	5.6	55.0
Methyl ethyl ketone (MEK)	Ave	0.0312	0.0305		39.1	40.0	-2.2	55.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0660	0.0703		42.6	40.0	6.5	55.0
Methyl n-butyl ketone (MNBK)	Lin1		0.2040		40.8	40.0	1.9	55.0
Cyclohexanone	Lin1		0.0094		415	400	3.8	35.0
Dibromofluoromethane (Surr)	Ave	0.2448	0.2406		10.3	10.5	-1.7	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2355	0.2172		9.68	10.5	-7.8	35.0
Toluene-d8 (Surr)	Ave	5.874	5.720		10.2	10.5	-2.6	35.0
4-Bromofluorobenzene (Surr)	Ave	1.351	1.353		10.5	10.5	0.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-422281/12 Calibration Date: 07/16/2018 09:45

Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26

Lab File ID: Q5637.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethyl ether	Ave	0.0912	0.0799		8.76	10.0	-12.4	35.0
Freon 113	Ave	0.2266	0.2259		9.97	10.0	-0.3	55.0
1,1-Dichloroethene	Ave	0.3087	0.2965		9.61	10.0	-3.9	35.0
Iodomethane	Ave	0.3990	0.3895		9.76	10.0	-2.4	35.0
Methyl acetate	Lin1		0.0435		50.7	50.0	1.5	55.0
Allyl chloride	Ave	0.5025	0.4796		9.54	10.0	-4.6	35.0
Carbon disulfide	Ave	1.357	1.197		8.82	10.0	-11.8	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		1.323		106	100	6.0	55.0
Methylene Chloride	Lin2		0.2318		8.92	10.0	-10.8	35.0
Acrylonitrile	Lin2		0.0177		84.3	100	-15.7	55.0
Methyl tert-butyl ether	Ave	0.2590	0.2453		9.47	10.0	-5.3	35.0
trans-1,2-Dichloroethene	Ave	0.2949	0.2949		10.0	10.0	-0.0	35.0
Hexane	Ave	2.713	2.709		9.99	10.0	-0.1	35.0
1,1-Dichloroethane	Ave	0.5764	0.5630	0.1000	9.77	10.0	-2.3	35.0
sec-Butyl Alcohol	Ave	0.9332	0.9946		320	300	6.6	
cis-1,2-Dichloroethene	Ave	0.2830	0.2834		10.0	10.0	0.1	35.0
2,2-Dichloropropane	Ave	0.4383	0.3970		9.06	10.0	-9.4	35.0
Chlorobromomethane	Ave	0.0744	0.0743		9.99	10.0	-0.1	35.0
Chloroform	Ave	0.4990	0.5018		10.1	10.0	0.6	35.0
Tetrahydrofuran	Ave	0.0146	0.0139		19.0	20.0	-5.2	55.0
Isobutyl alcohol	Lin2		0.3085		233	250	-6.6	55.0
1,1,1-Trichloroethane	Ave	0.5197	0.5098		9.81	10.0	-1.9	35.0
Cyclohexane	Ave	0.6574	0.6512		9.91	10.0	-0.9	35.0
1,1-Dichloropropene	Ave	0.5170	0.5442		10.5	10.0	5.3	35.0
Carbon tetrachloride	Ave	0.4318	0.4312		9.98	10.0	-0.2	35.0
1,2-Dichloroethane	Ave	0.2533	0.2380		9.39	10.0	-6.1	35.0
Benzene	Ave	1.241	1.269		10.2	10.0	2.3	35.0
n-Heptane	Ave	0.6804	0.7173		10.5	10.0	5.4	50.0
Trichloroethene	Ave	0.3484	0.3571		10.2	10.0	2.5	35.0
2-Pentanone	Lin1		0.0399		34.3	40.0	-14.2	55.0
1,2-Dichloropropane	Ave	0.2924	0.2947		10.1	10.0	0.8	35.0
Methylcyclohexane	Ave	0.5510	0.5501		9.98	10.0	-0.2	35.0
1,4-Dioxane	Lin2		0.0006		177	200	-11.5	55.0
Dibromomethane	Ave	0.0865	0.0823		9.51	10.0	-4.9	35.0
Dichlorobromomethane	Ave	0.3067	0.2995		9.77	10.0	-2.3	35.0
cis-1,3-Dichloropropene	Lin2		1.594		10.1	10.0	0.6	35.0
Toluene	Ave	1.378	1.433		10.4	10.0	4.0	35.0
Ethyl methacrylate	Lin1		0.5273		8.73	10.0	-12.7	35.0
trans-1,3-Dichloropropene	Lin1		0.2376		8.93	10.0	-10.7	35.0
1,1,2-Trichloroethane	Ave	0.1218	0.1184		9.72	10.0	-2.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-422281/12 Calibration Date: 07/16/2018 09:45  
 Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
 Lab File ID: Q5637.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dichloropropane	Ave	1.062	1.012		9.52	10.0	-4.8	35.0
Tetrachloroethene	Ave	1.144	1.176		10.3	10.0	2.8	35.0
Chlorodibromomethane	Lin1		0.5619		8.42	10.0	-15.8	35.0
1,2-Dibromoethane	Ave	0.4436	0.4322		9.74	10.0	-2.6	35.0
1-Chlorohexane	Ave	2.358	2.607		11.1	10.0	10.6	35.0
Chlorobenzene	Ave	3.350	3.342	0.3000	9.98	10.0	-0.2	35.0
1,1,1,2-Tetrachloroethane	Lin2		0.9394		9.89	10.0	-1.1	35.0
Ethylbenzene	Ave	2.146	2.266		10.6	10.0	5.6	35.0
m-Xylene & p-Xylene	Ave	2.600	2.623		10.1	10.0	0.9	35.0
o-Xylene	Ave	2.122	2.297		10.8	10.0	8.2	35.0
Styrene	Lin2		3.335		10.0	10.0	0.0	35.0
Bromoform	Lin2		0.2101	0.1000	8.59	10.0	-14.1	35.0
Isopropylbenzene	Ave	5.248	5.447		10.4	10.0	3.8	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4147	0.3667	0.3000	8.84	10.0	-11.6	35.0
trans-1,4-Dichloro-2-butene	Lin2		0.0656		8.19	10.0	-18.1	55.0
1,2,3-Trichloropropane	Ave	0.0946	0.0898		9.49	10.0	-5.1	35.0
N-Propylbenzene	Ave	1.454	1.512		10.4	10.0	4.0	35.0
Bromobenzene	Ave	0.8200	0.7869		9.60	10.0	-4.0	35.0
1,3,5-Trimethylbenzene	Ave	4.004	4.163		10.4	10.0	4.0	35.0
2-Chlorotoluene	Ave	1.115	1.119		10.0	10.0	0.3	35.0
4-Chlorotoluene	Ave	1.097	1.106		10.1	10.0	0.8	35.0
tert-Butylbenzene	Ave	4.109	4.179		10.2	10.0	1.7	35.0
1,2,4-Trimethylbenzene	Ave	3.931	3.882		9.87	10.0	-1.3	35.0
sec-Butylbenzene	Ave	1.087	1.099		10.1	10.0	1.2	35.0
4-Isopropyltoluene	Ave	4.466	4.544		10.2	10.0	1.8	35.0
1,3-Dichlorobenzene	Ave	1.675	1.602		9.56	10.0	-4.4	35.0
1,4-Dichlorobenzene	Ave	1.668	1.582		9.48	10.0	-5.2	35.0
n-Butylbenzene	Ave	4.790	4.817		10.1	10.0	0.6	35.0
1,2-Dichlorobenzene	Ave	1.256	1.196		9.52	10.0	-4.8	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0343		8.31	10.0	-16.9	55.0
1,2,4-Trichlorobenzene	Ave	0.7070	0.6944		9.82	10.0	-1.8	35.0
Hexachlorobutadiene	Ave	0.6844	0.6933		10.1	10.0	1.3	35.0
Naphthalene	Lin2		0.7560		8.73	10.0	-12.7	35.0
1,2,3-Trichlorobenzene	Ave	0.5007	0.4821		9.63	10.0	-3.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-422639/2 Calibration Date: 07/18/2018 09:41  
Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02  
Lab File ID: Q5759.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Lin1					10.0	-100.0*	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-422639/2 Calibration Date: 07/18/2018 09:41

Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26

Lab File ID: Q5759.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethyl ether	Ave	0.0912	0.0576		6.32	10.0	-36.8*	35.0
Acrolein	Lin2		0.0082		71.7	100	-28.3	50.0
Freon 113	Ave	0.2266	0.2295		10.1	10.0	1.3	50.0
1,1-Dichloroethene	Ave	0.3087	0.2770		8.97	10.0	-10.3	20.0
Iodomethane	Ave	0.3990	0.3799		9.52	10.0	-4.8	35.0
Methyl acetate	Lin1		0.0289		12.8	20.0	-36.0	50.0
Allyl chloride	Ave	0.5025	0.3144		6.26	10.0	-37.4*	35.0
Carbon disulfide	Ave	1.357	1.165		8.59	10.0	-14.1	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		1.244		99.8	100	-0.2	50.0
Methylene Chloride	Lin2		0.2193		8.42	10.0	-15.8	35.0
Acrylonitrile	Lin2		0.0140		68.0	100	-32.0	50.0
Methyl tert-butyl ether	Ave	0.2590	0.2031		7.84	10.0	-21.6	35.0
trans-1,2-Dichloroethene	Ave	0.2949	0.2661		9.02	10.0	-9.8	35.0
Hexane	Ave	2.713	2.249		8.29	10.0	-17.1	35.0
Vinyl acetate	Lin1		0.1125		12.3	20.0	-38.5	50.0
1,1-Dichloroethane	Ave	0.5764	0.4661	0.1000	8.09	10.0	-19.1	35.0
sec-Butyl Alcohol	Ave	0.9332	0.7841		252	300	-16.0	50.0
cis-1,2-Dichloroethene	Ave	0.2830	0.2575		9.10	10.0	-9.0	35.0
2,2-Dichloropropane	Ave	0.4383	0.3816		8.71	10.0	-12.9	35.0
Chlorobromomethane	Ave	0.0744	0.0719		9.67	10.0	-3.3	35.0
Chloroform	Ave	0.4990	0.4472		8.96	10.0	-10.4	20.0
Tetrahydrofuran	Ave	0.0146	0.0073		9.91	20.0	-50.5*	50.0
Isobutyl alcohol	Lin2		0.2779		212	250	-15.2	50.0
1,1,1-Trichloroethane	Ave	0.5197	0.4814		9.26	10.0	-7.4	35.0
Cyclohexane	Ave	0.6574	0.5134		7.81	10.0	-21.9	35.0
1,1-Dichloropropene	Ave	0.5170	0.4575		8.85	10.0	-11.5	35.0
Carbon tetrachloride	Ave	0.4318	0.4211		9.75	10.0	-2.5	35.0
1,2-Dichloroethane	Ave	0.2533	0.2035		8.03	10.0	-19.7	35.0
Benzene	Ave	1.241	1.129		9.09	10.0	-9.1	35.0
n-Heptane	Ave	0.6804	0.4697		6.90	10.0	-31.0	50.0
Trichloroethene	Ave	0.3484	0.3221		9.24	10.0	-7.6	35.0
2-Pentanone	Lin1		0.0281		24.4	40.0	-39.1	50.0
1,2-Dichloropropane	Ave	0.2924	0.2380		8.14	10.0	-18.6	20.0
Methylcyclohexane	Ave	0.5510	0.4475		8.12	10.0	-18.8	35.0
1,4-Dioxane	Lin2		0.0005		157	200	-21.7	50.0
Dibromomethane	Ave	0.0865	0.0780		9.01	10.0	-9.9	35.0
Dichlorobromomethane	Ave	0.3067	0.2802		9.14	10.0	-8.6	35.0
cis-1,3-Dichloropropene	Lin2		1.400		8.84	10.0	-11.6	35.0
Toluene	Ave	1.378	1.309		9.50	10.0	-5.0	20.0
Ethyl methacrylate	Lin1		0.4895		8.13	10.0	-18.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-422639/2 Calibration Date: 07/18/2018 09:41

Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26

Lab File ID: Q5759.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
trans-1,3-Dichloropropene	Lin1		0.2130		8.02	10.0	-19.8	35.0
1,1,2-Trichloroethane	Ave	0.1218	0.1141		9.36	10.0	-6.4	35.0
1,3-Dichloropropane	Ave	1.062	1.012		9.52	10.0	-4.8	35.0
Tetrachloroethene	Ave	1.144	1.249		10.9	10.0	9.2	35.0
Chlorodibromomethane	Lin1		0.6022		9.02	10.0	-9.8	35.0
1,2-Dibromoethane	Ave	0.4436	0.4507		10.2	10.0	1.6	35.0
1-Chlorohexane	Ave	2.358	2.437		10.3	10.0	3.3	35.0
Chlorobenzene	Ave	3.350	3.440	0.3000	10.3	10.0	2.7	35.0
1,1,1,2-Tetrachloroethane	Lin2		0.9729		10.2	10.0	2.4	35.0
Ethylbenzene	Ave	2.146	2.265		10.6	10.0	5.5	20.0
m-Xylene & p-Xylene	Ave	2.600	2.648		10.2	10.0	1.9	35.0
o-Xylene	Ave	2.122	2.280		10.7	10.0	7.4	35.0
Styrene	Lin2		3.346		10.0	10.0	0.4	35.0
Bromoform	Lin2		0.2414	0.1000	9.81	10.0	-1.9	35.0
Isopropylbenzene	Ave	5.248	5.552		10.6	10.0	5.8	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4147	0.3969	0.3000	9.57	10.0	-4.3	35.0
trans-1,4-Dichloro-2-butene	Lin2		0.0572		7.22	10.0	-27.8	50.0
1,2,3-Trichloropropane	Ave	0.0946	0.0948		10.0	10.0	0.1	35.0
N-Propylbenzene	Ave	1.454	1.502		10.3	10.0	3.3	35.0
Bromobenzene	Ave	0.8200	0.8765		10.7	10.0	6.9	35.0
1,3,5-Trimethylbenzene	Ave	4.004	4.237		10.6	10.0	5.8	35.0
2-Chlorotoluene	Ave	1.115	1.182		10.6	10.0	5.9	35.0
4-Chlorotoluene	Ave	1.097	1.116		10.2	10.0	1.7	35.0
tert-Butylbenzene	Ave	4.109	4.294		10.5	10.0	4.5	35.0
1,2,4-Trimethylbenzene	Ave	3.931	3.994		10.2	10.0	1.6	35.0
sec-Butylbenzene	Ave	1.087	1.148		10.6	10.0	5.6	35.0
4-Isopropyltoluene	Ave	4.466	4.579		10.3	10.0	2.5	35.0
1,3-Dichlorobenzene	Ave	1.675	1.729		10.3	10.0	3.2	35.0
1,4-Dichlorobenzene	Ave	1.668	1.694		10.2	10.0	1.6	35.0
n-Butylbenzene	Ave	4.790	4.699		9.81	10.0	-1.9	35.0
1,2-Dichlorobenzene	Ave	1.256	1.315		10.5	10.0	4.6	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0394		9.45	10.0	-5.5	50.0
1,2,4-Trichlorobenzene	Ave	0.7070	0.7461		10.6	10.0	5.5	35.0
Hexachlorobutadiene	Ave	0.6844	0.7277		10.6	10.0	6.3	35.0
Naphthalene	Lin2		0.8522		9.80	10.0	-2.0	35.0
1,2,3-Trichlorobenzene	Ave	0.5007	0.5317		10.6	10.0	6.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-422639/3 Calibration Date: 07/18/2018 10:05  
Instrument ID: VMS\_Q Calib Start Date: 06/22/2017 02:52  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/22/2017 04:37  
Lab File ID: Q5760.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butanol	Ave	0.3936	0.1326		75.9	250	-66.3*	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-422639/3 Calibration Date: 07/18/2018 10:05  
Instrument ID: VMS\_Q Calib Start Date: 04/11/2018 18:18  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 04/11/2018 20:02  
Lab File ID: Q5760.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Lin		0.0028		41.2	100	-58.8*	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-422639/3 Calibration Date: 07/18/2018 10:05  
 Instrument ID: VMS\_Q Calib Start Date: 06/25/2018 12:56  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/25/2018 15:14  
 Lab File ID: Q5760.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Qua		0.0005		238	1000	-76.2*	50.0
Ethanol	Lin2		0.1847		890	600	48.4	50.0
Propene oxide	Ave	0.0118	0.0058		490	1000	-51.0*	50.0
2-Propanol	Lin1		1.240		147	100	46.7	50.0
Di-isopropyl ether (DIPE)	Ave	0.1622	0.1327		8.18	10.0	-18.2	35.0
Chloroprene	Ave	0.4103	0.3935		9.59	10.0	-4.1	35.0
Tert-butyl ethyl ether	Ave	0.4250	0.3281		7.72	10.0	-22.8	35.0
Ethyl acetate	Ave	0.0477	0.0400		16.8	20.0	-16.2	50.0
Propionitrile	Qua		0.0033		74.1	100	-25.9	50.0
Methacrylonitrile	Ave	0.0406	0.0282		69.4	100	-30.6	50.0
Tert-amyl methyl ether	Ave	0.3124	0.2564		8.21	10.0	-17.9	35.0
Methyl methacrylate	Ave	0.0191	0.0176		18.5	20.0	-7.5	35.0
2-Nitropropane	Qua		0.0093		38.4	20.0	92.0*	50.0
Tetrahydrothiophene	Ave	0.0494	0.0148		5.99	20.0	-70.1*	50.0
cis-1,4-Dichloro-2-butene	Ave	0.1041	0.0670		12.9	20.0	-35.6	50.0
1,2,3-Trimethylbenzene	Ave	3.438	3.912		11.4	10.0	13.8	35.0
1,3,5-Trichlorobenzene	Ave	1.171	1.431		12.2	10.0	22.2	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-422639/3 Calibration Date: 07/18/2018 10:05  
 Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
 Lab File ID: Q5760.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2448	0.2352		9.61	10.0	-3.9	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2355	0.1912		8.12	10.0	-18.8	35.0
Toluene-d8 (Surr)	Ave	5.874	5.667		9.65	10.0	-3.5	35.0
4-Bromofluorobenzene (Surr)	Ave	1.351	1.376		10.2	10.0	1.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-422639/12 Calibration Date: 07/18/2018 10:27  
 Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
 Lab File ID: Q5761.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4887	0.4970		10.2	10.0	1.7	50.0
Chloromethane	Ave	0.4715	0.3375	0.1000	7.16	10.0	-28.4	35.0
Vinyl chloride	Ave	0.3315	0.2880		8.69	10.0	-13.1	20.0
Bromomethane	Ave	0.2743	0.2473		9.01	10.0	-9.9	35.0
Chloroethane	Ave	0.2049	0.1760		8.59	10.0	-14.1	35.0
Dichlorofluoromethane	Ave	0.5994	0.5245		8.75	10.0	-12.5	50.0
Trichlorofluoromethane	Ave	0.6662	0.6566		9.86	10.0	-1.4	50.0
Acetone	Ave	0.0188	0.0130		27.6	40.0	-30.9	50.0
Methyl ethyl ketone (MEK)	Ave	0.0312	0.0211		27.1	40.0	-32.3	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0660	0.0479		29.0	40.0	-27.4	50.0
Methyl n-butyl ketone (MNBK)	Lin1		0.1391		28.0	40.0	-30.0	50.0
Cyclohexanone	Lin1		0.0076		338	400	-15.4	50.0



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-422639/8

Matrix: Water Lab File ID: Q5764.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 07/18/2018 11:46

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 422639 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	80		70-127
460-00-4	4-Bromofluorobenzene (Surr)	98		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	97		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-422809/8

Matrix: Water Lab File ID: P7956.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 07/19/2018 13:27

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 422809 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	87		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	89		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-422639/6  
 Matrix: Water Lab File ID: Q5763.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/18/2018 11:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 422639 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.39		1.0	0.16
75-34-3	1,1-Dichloroethane	4.04		1.0	0.22
75-35-4	1,1-Dichloroethene	4.08		1.0	0.23
107-06-2	1,2-Dichloroethane	4.12		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	12.6		6.0	2.0
67-64-1	Acetone	12.9		10	1.9
71-43-2	Benzene	4.54		1.0	0.16
75-00-3	Chloroethane	3.63		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.84		1.0	0.15
100-41-4	Ethylbenzene	5.53		1.0	0.16
75-09-2	Methylene Chloride	4.06		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.54		2.0	0.34
95-47-6	o-Xylene	5.85		1.0	0.19
100-42-5	Styrene	5.52		1.0	0.17
127-18-4	Tetrachloroethene	5.60		1.0	0.20
108-88-3	Toluene	5.04		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.48		1.0	0.15
79-01-6	Trichloroethene	4.63		1.0	0.16
75-01-4	Vinyl chloride	3.69		1.0	0.10
1330-20-7	Xylenes, Total	11.4		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	75		70-127
460-00-4	4-Bromofluorobenzene (Surr)	102		78-120
1868-53-7	Dibromofluoromethane (Surr)	90		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-422809/4  
 Matrix: Water Lab File ID: P7957.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/19/2018 13:46  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 422809 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.25		1.0	0.16
75-34-3	1,1-Dichloroethane	5.31		1.0	0.22
75-35-4	1,1-Dichloroethene	5.48		1.0	0.23
107-06-2	1,2-Dichloroethane	5.25		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	21.2		6.0	2.0
67-64-1	Acetone	21.7		10	1.9
71-43-2	Benzene	5.36		1.0	0.16
75-00-3	Chloroethane	4.98		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.44		1.0	0.15
100-41-4	Ethylbenzene	5.47		1.0	0.16
75-09-2	Methylene Chloride	5.23		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.45		2.0	0.34
95-47-6	o-Xylene	5.76		1.0	0.19
100-42-5	Styrene	5.38		1.0	0.17
127-18-4	Tetrachloroethene	5.40		1.0	0.20
108-88-3	Toluene	5.28		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.44		1.0	0.15
79-01-6	Trichloroethene	5.34		1.0	0.16
75-01-4	Vinyl chloride	4.66		1.0	0.10
1330-20-7	Xylenes, Total	11.2		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	91		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111985-E-4 MS

Matrix: Water Lab File ID: Q5766.D

Analysis Method: 8260B Date Collected: 07/10/2018 12:20

Sample wt/vol: 20 (mL) Date Analyzed: 07/18/2018 12:31

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 422639 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.62		1.0	0.16
75-34-3	1,1-Dichloroethane	4.08		1.0	0.22
75-35-4	1,1-Dichloroethene	4.22		1.0	0.23
107-06-2	1,2-Dichloroethane	4.20		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	12.7		6.0	2.0
67-64-1	Acetone	11.9		10	1.9
71-43-2	Benzene	4.67		1.0	0.16
75-00-3	Chloroethane	3.49		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.82		1.0	0.15
100-41-4	Ethylbenzene	5.59		1.0	0.16
75-09-2	Methylene Chloride	4.14		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.35		2.0	0.34
95-47-6	o-Xylene	5.97		1.0	0.19
100-42-5	Styrene	5.49		1.0	0.17
127-18-4	Tetrachloroethene	5.48		1.0	0.20
108-88-3	Toluene	5.12		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.65		1.0	0.15
79-01-6	Trichloroethene	4.72		1.0	0.16
75-01-4	Vinyl chloride	3.16		1.0	0.10
1330-20-7	Xylenes, Total	11.3		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	79		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	93		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111749-E-1 MS

Matrix: Water Lab File ID: P7966.D

Analysis Method: 8260B Date Collected: 07/09/2018 10:45

Sample wt/vol: 20 (mL) Date Analyzed: 07/19/2018 16:35

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 422809 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.81		1.0	0.16
75-34-3	1,1-Dichloroethane	5.03		1.0	0.22
75-35-4	1,1-Dichloroethene	5.08		1.0	0.23
107-06-2	1,2-Dichloroethane	5.11		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	21.6		6.0	2.0
67-64-1	Acetone	23.0		10	1.9
71-43-2	Benzene	4.90		1.0	0.16
75-00-3	Chloroethane	4.94		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.04		1.0	0.15
100-41-4	Ethylbenzene	4.30		1.0	0.16
75-09-2	Methylene Chloride	4.73		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.32		2.0	0.34
95-47-6	o-Xylene	4.61		1.0	0.19
100-42-5	Styrene	3.48		1.0	0.17
127-18-4	Tetrachloroethene	4.22		1.0	0.20
108-88-3	Toluene	4.80		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.04		1.0	0.15
79-01-6	Trichloroethene	4.66		1.0	0.16
75-01-4	Vinyl chloride	4.69		1.0	0.10
1330-20-7	Xylenes, Total	8.93		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	93		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-111985-E-4 MSD

Matrix: Water Lab File ID: Q5767.D

Analysis Method: 8260B Date Collected: 07/10/2018 12:20

Sample wt/vol: 20 (mL) Date Analyzed: 07/18/2018 12:53

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 422639 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.46		1.0	0.16
75-34-3	1,1-Dichloroethane	3.91		1.0	0.22
75-35-4	1,1-Dichloroethene	4.27		1.0	0.23
107-06-2	1,2-Dichloroethane	3.92		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	13.1		6.0	2.0
67-64-1	Acetone	13.2		10	1.9
71-43-2	Benzene	4.32		1.0	0.16
75-00-3	Chloroethane	3.82		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.54		1.0	0.15
100-41-4	Ethylbenzene	4.89		1.0	0.16
75-09-2	Methylene Chloride	4.03		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.89		2.0	0.34
95-47-6	o-Xylene	5.29		1.0	0.19
100-42-5	Styrene	4.88		1.0	0.17
127-18-4	Tetrachloroethene	4.95		1.0	0.20
108-88-3	Toluene	4.82		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.49		1.0	0.15
79-01-6	Trichloroethene	4.24		1.0	0.16
75-01-4	Vinyl chloride	3.65		1.0	0.10
1330-20-7	Xylenes, Total	10.2		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	81		70-127
460-00-4	4-Bromofluorobenzene (Surr)	97		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	96		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111864-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-111749-E-1 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>P7967.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/09/2018 10:45</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/19/2018 16:54</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>422809</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.68		1.0	0.16
75-34-3	1,1-Dichloroethane	4.83		1.0	0.22
75-35-4	1,1-Dichloroethene	4.98		1.0	0.23
107-06-2	1,2-Dichloroethane	5.04		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	21.7		6.0	2.0
67-64-1	Acetone	24.0		10	1.9
71-43-2	Benzene	4.74		1.0	0.16
75-00-3	Chloroethane	5.12		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.88		1.0	0.15
100-41-4	Ethylbenzene	4.01		1.0	0.16
75-09-2	Methylene Chloride	4.65		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.01		2.0	0.34
95-47-6	o-Xylene	4.38		1.0	0.19
100-42-5	Styrene	4.19		1.0	0.17
127-18-4	Tetrachloroethene	3.94		1.0	0.20
108-88-3	Toluene	4.54		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.83		1.0	0.15
79-01-6	Trichloroethene	4.46		1.0	0.16
75-01-4	Vinyl chloride	4.78		1.0	0.10
1330-20-7	Xylenes, Total	8.39		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	92		77-120
2037-26-5	Toluene-d8 (Surr)	99		80-125



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_PStart Date: 06/23/2018 11:37Analysis Batch Number: 419732End Date: 06/23/2018 17:23

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-419732/1		06/23/2018 11:37	1	P7457.D	DB-624 (60.25) 0.25 (mm)
STD003 280-419732/12 IC		06/23/2018 12:21	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 12:21	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419732/13 IC		06/23/2018 12:39	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 12:39	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419732/14 IC		06/23/2018 12:58	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 12:58	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419732/15 IC		06/23/2018 13:17	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 13:17	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419732/16 IC		06/23/2018 13:36	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 13:36	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419732/17 IC		06/23/2018 13:55	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 13:55	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419732/18 IC		06/23/2018 14:14	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 14:14	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419732/19		06/23/2018 14:52	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419732/20 IC		06/23/2018 15:11	1	P7468.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 15:11	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419732/21 IC		06/23/2018 15:30	1	P7469.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 15:30	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419732/22 IC		06/23/2018 15:49	1	P7470.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 15:49	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-419732/23		06/23/2018 16:08	1	P7471.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 16:08	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419732/24 IC		06/23/2018 16:26	1	P7472.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 16:26	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419732/25 IC		06/23/2018 16:45	1	P7473.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/23/2018 16:45	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419732/26		06/23/2018 17:23	1	P7475.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_PStart Date: 07/19/2018 08:56Analysis Batch Number: 422809End Date: 07/19/2018 19:43

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422809/1		07/19/2018 08:56	1	P7944.D	DB-624 (60.25) 0.25 (mm)
CCV 280-422809/3		07/19/2018 09:45	1	P7946.D	DB-624 (60.25) 0.25 (mm)
STD003 280-422809/57 IC		07/19/2018 10:37	1	P7947.D	DB-624 (60.25) 0.25 (mm)
STD010 280-422809/58 IC		07/19/2018 10:55	1	P7948.D	DB-624 (60.25) 0.25 (mm)
STD020 280-422809/59 IC		07/19/2018 11:14	1	P7949.D	DB-624 (60.25) 0.25 (mm)
STD050 280-422809/60 IC		07/19/2018 11:33	1	P7950.D	DB-624 (60.25) 0.25 (mm)
ICIS 280-422809/61		07/19/2018 11:52	1	P7951.D	DB-624 (60.25) 0.25 (mm)
STD30 280-422809/62 IC		07/19/2018 12:11	1	P7952.D	DB-624 (60.25) 0.25 (mm)
STD60 280-422809/63 IC		07/19/2018 12:30	1	P7953.D	DB-624 (60.25) 0.25 (mm)
ICV 280-422809/64		07/19/2018 13:08	1	P7955.D	DB-624 (60.25) 0.25 (mm)
MB 280-422809/8		07/19/2018 13:27	1	P7956.D	DB-624 (60.25) 0.25 (mm)
LCS 280-422809/4		07/19/2018 13:46	1	P7957.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 14:05	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 14:23	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 14:42	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 15:01	1		DB-624 (60.25) 0.25 (mm)
280-111864-1 DL		07/19/2018 15:20	2000	P7962.D	DB-624 (60.25) 0.25 (mm)
280-111864-2 DL		07/19/2018 15:38	2000	P7963.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 15:57	100		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 16:16	1		DB-624 (60.25) 0.25 (mm)
280-111749-E-1 MS		07/19/2018 16:35	1	P7966.D	DB-624 (60.25) 0.25 (mm)
280-111749-E-1 MSD		07/19/2018 16:54	1	P7967.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 17:13	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 17:31	1		DB-624 (60.25) 0.25 (mm)
CCVC 280-422809/83		07/19/2018 17:50	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 18:09	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 18:28	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 18:47	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 19:06	2		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 19:24	20		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/19/2018 19:43	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 06/25/2018 08:50Analysis Batch Number: 419807End Date: 06/25/2018 22:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-419807/1		06/25/2018 08:50	1	Q4999.D	DB-624 (60.25) 0.25 (mm)
STD003 280-419807/11 IC		06/25/2018 09:40	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 09:40	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/12 IC		06/25/2018 10:01	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 10:01	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/13 IC		06/25/2018 10:22	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 10:22	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/14 IC		06/25/2018 10:42	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 10:42	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419807/15 IC		06/25/2018 11:03	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:03	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/16 IC		06/25/2018 11:24	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:24	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/17 IC		06/25/2018 11:46	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:46	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419807/18		06/25/2018 12:33	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/19 IC		06/25/2018 12:56	1	Q5010.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 12:56	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/20 IC		06/25/2018 13:19	1	Q5011.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 13:19	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-419807/22		06/25/2018 14:05	1	Q5013.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:05	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/23 IC		06/25/2018 14:28	1	Q5014.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:28	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/24 IC		06/25/2018 14:51	1	Q5015.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:51	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/21 IC		06/25/2018 15:14	1	Q5016.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 15:14	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419807/25		06/25/2018 15:59	1	Q5018.D	DB-624 (60.25) 0.25 (mm)
280-111108-A-1 MDLV		06/25/2018 16:22	1		DB-624 (60.25) 0.25 (mm)
STD003 280-419807/26 IC		06/25/2018 16:45	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/27 IC		06/25/2018 17:08	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/28 IC		06/25/2018 17:29	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/29 IC		06/25/2018 17:50	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419807/30 IC		06/25/2018 18:10	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/31 IC		06/25/2018 18:31	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/32 IC		06/25/2018 18:52	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Start Date: 06/25/2018 08:50Analysis Batch Number: 419807 End Date: 06/25/2018 22:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICV 280-419807/33		06/25/2018 19:15	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-2 MDLV		06/25/2018 19:38	1		DB-624 (60.25) 0.25 (mm)
280-111107-A-3 MDLV		06/25/2018 20:01	1		DB-624 (60.25) 0.25 (mm)
280-111107-A-4 MDLV		06/25/2018 20:47	1		DB-624 (60.25) 0.25 (mm)
280-111107-A-5 MDLV		06/25/2018 21:10	1		DB-624 (60.25) 0.25 (mm)
280-111107-A-7 MDLV		06/25/2018 21:32	1		DB-624 (60.25) 0.25 (mm)
280-111107-A-8 MDLV		06/25/2018 21:55	1		DB-624 (60.25) 0.25 (mm)
280-111107-A-9 MDLV		06/25/2018 22:18	1		DB-624 (60.25) 0.25 (mm)
280-111107-A-10 MDLV		06/25/2018 22:41	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 07/12/2018 13:44Analysis Batch Number: 422015End Date: 07/12/2018 17:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422015/1		07/12/2018 13:44	1	Q5623.D	DB-624 (60.25) 0.25 (mm)
STD003 280-422015/12 IC		07/12/2018 13:55	1	Q5624.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 13:55	1		DB-624 (60.25) 0.25 (mm)
STD010 280-422015/13 IC		07/12/2018 14:17	1	Q5625.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 14:17	1		DB-624 (60.25) 0.25 (mm)
STD020 280-422015/14 IC		07/12/2018 14:39	1	Q5626.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 14:39	1		DB-624 (60.25) 0.25 (mm)
STD050 280-422015/15 IC		07/12/2018 15:02	1	Q5627.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 15:02	1		DB-624 (60.25) 0.25 (mm)
STD10 280-422015/16 IC		07/12/2018 15:41	1	Q5628.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 15:41	1		DB-624 (60.25) 0.25 (mm)
STD30 280-422015/17 IC		07/12/2018 16:03	1	Q5629.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 16:03	1		DB-624 (60.25) 0.25 (mm)
STD60 280-422015/18 IC		07/12/2018 16:26	1	Q5630.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 16:26	1		DB-624 (60.25) 0.25 (mm)
ICV 280-422015/19		07/12/2018 17:11	1	Q5632.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 07/16/2018 08:55Analysis Batch Number: 422281End Date: 07/16/2018 20:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422281/1		07/16/2018 08:55	1	Q5635.D	DB-624 (60.25) 0.25 (mm)
ICV 280-422281/12		07/16/2018 09:45	1	Q5637.D	DB-624 (60.25) 0.25 (mm)
CCV 280-422281/2		07/16/2018 10:08	1		DB-624 (60.25) 0.25 (mm)
CCV 280-422281/3		07/16/2018 10:31	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 10:53	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 11:15	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 11:38	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 12:00	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 12:23	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 12:46	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 13:08	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 13:30	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 13:53	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 14:16	4		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 14:39	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 15:02	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 15:24	2		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 16:09	2		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 16:32	20		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 16:55	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 17:17	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 17:40	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 18:03	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 18:26	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 18:48	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 19:11	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 19:34	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 19:56	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 20:18	20		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111864-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 07/18/2018 08:52Analysis Batch Number: 422639End Date: 07/18/2018 21:21

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422639/1		07/18/2018 08:52	1	Q5757.D	DB-624 (60.25) 0.25 (mm)
CCV 280-422639/2		07/18/2018 09:41	1	Q5759.D	DB-624 (60.25) 0.25 (mm)
CCV 280-422639/3		07/18/2018 10:05	1	Q5760.D	DB-624 (60.25) 0.25 (mm)
CCV 280-422639/12		07/18/2018 10:27	1	Q5761.D	DB-624 (60.25) 0.25 (mm)
LCS 280-422639/6		07/18/2018 11:24	1	Q5763.D	DB-624 (60.25) 0.25 (mm)
MB 280-422639/8		07/18/2018 11:46	1	Q5764.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 12:08	1		DB-624 (60.25) 0.25 (mm)
280-111985-E-4 MS		07/18/2018 12:31	1	Q5766.D	DB-624 (60.25) 0.25 (mm)
280-111985-E-4 MSD		07/18/2018 12:53	1	Q5767.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 13:15	100		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 13:38	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 14:00	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 14:23	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 14:45	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 15:07	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 15:30	10		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 16:28	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 16:51	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 17:13	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 17:36	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 17:58	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 18:21	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 18:43	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 19:06	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 19:28	1		DB-624 (60.25) 0.25 (mm)
280-111864-1		07/18/2018 19:51	100	Q5785.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 20:14	1000		DB-624 (60.25) 0.25 (mm)
280-111864-2		07/18/2018 20:36	200	Q5787.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 20:59	2000		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/18/2018 21:21	100		DB-624 (60.25) 0.25 (mm)



Sequence Name: C:\HPCHEM\1\SEQUENCE\071618.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\071618.s\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument: Q

UV-MS-0010 (82603/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 0855-2018

422281

Method Sections To Run On A Barcode Mismatch  
(X) Full Method (X) Inject Anyway  
( ) Reprocessing Only ( ) Don't Inject

Line Type Vial DataFile Method Sample Name

1 Sample	100 Q5635	BFB	BFB
2 Sample	10 Q5636	8260	BLK
3 Sample	11 Q5637	8260	ICV
4 Sample	12 Q5638	8260	CCV
5 Sample	13 Q5639	8260	CCV
6 Sample	14 Q5640	8260	LCS
7 Sample	15 Q5641	8260	MB
8 Sample	16 Q5642	8260	280-111186-a-31 PH<2
9 Sample	17 Q5643	8260	280-111186-b-32 PH<2
10 Sample	18 Q5644	8260	280-111186-d-33 PH<2
11 Sample	19 Q5645	8260	280-111186-c-34 PH<2
12 Sample	20 Q5646	8260	280-111186-d-35 PH<2
13 Sample	21 Q5647	8260	280-111186-b-36 PH<2
14 Sample	22 Q5648	8260	280-111655-d-2 PH<2
15 Sample	23 Q5649	8260	280-111655-d-2 5mL PH<2
16 Sample	24 Q5650	8260	280-111655-b-2 MS PH<2
17 Sample	25 Q5651	8260	280-111655-b-2 MSD PH<2
18 Sample	26 Q5652	8260	280-111655-c-3 10ML PH<2
19 Sample	27 Q5653	8260	280-111655-c-3 1mL PH<2
20 Sample	28 Q5654	8260	280-111655-e-4 10mL PH<2
21 Sample	29 Q5655	8260	280-111655-e-4 1mL PH<2
22 Sample	30 Q5656	8260	280-111655-c-5 PH<2
23 Sample	31 Q5657	8260	280-111655-d-6 PH<2
24 Sample	32 Q5658	8260	280-111847-g-1 PH=7
25 Sample	33 Q5659	8260	280-111847-c-2 PH=7
26 Sample	34 Q5660	8260	280-111847-a-3 PH=7
27 Sample	35 Q5661	8260	280-111850-b-1 PH=7
28 Sample	36 Q5662	8260	280-111850-h-2 PH=7
29 Sample	37 Q5663	8260	280-111850-h-3 PH=7
30 Sample	38 Q5664	8260	280-111850-h-4 PH=7
31 Sample	39 Q5665	8260	280-111655-c-3 1mL PH<2
32 Sample	40 Q5666	8260	280-111936-d-1 SCREENS
33 Sample	41 Q5667	8260	280-111936-d-2
34 Sample	42 Q5668	8260	280-111936-d-3
35 Sample	43 Q5669	8260	280-111936-d-4
36 Sample	44 Q5670	8260	280-111936-b-6
37 Sample	45 Q5671	8260	280-111936-b-7
38 Sample	46 Q5672	8260	280-111936-b-8
39 Sample	47 Q5673	8260	280-111936-e-9
40 Sample	48 Q5674	8260	280-111936-c-11
41 Sample	49 Q5675	8260	280-111936-b-12
42 Sample	50 Q5676	8260	280-111936-b-13
43 Sample	51 Q5677	8260	280-111936-c-14

7/17/18

BAD Purge

20:18  
DNR



Line Type	Vial	DataFile	Method	Sample Name
-----------	------	----------	--------	-------------

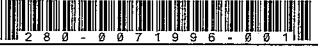

























44 Sample	1	Q5678	8260	280-111944-a-2
45 Sample	2	Q5679	8260	280-111944-b-3
46 Sample	3	Q5680	8260	280-111944-a-4
47 Sample	4	Q5681	8260	280-111944-b-5
48 Sample	5	Q5682	8260	280-111944-a-6
49 Sample	6	Q5683	8260	280-111944-b-7
50 Sample	7	Q5684	8260	280-111944-b-8
51 Sample	8	Q5685	8260	PRIMER
52 Sample	9	Q5686	8260	PRIMER







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 071618  
 Instrument Name: VMS\_Q  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180716-71996.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00098 Amount Added: 0.840, Units: uL











Page 128 of 173

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071996-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00070	CCV	voaWater	20.00	mL	1.000
280-0071996-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071996-004 	# 4 CCV 	mv-Pentachlor_00010 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071996-005 	# 5 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCS	voaWater	20.00	mL	1.000
280-0071996-006 	# 6 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCSD	voaWater	20.00	mL	1.000
280-0071996-007 	# 7 LCS 	MV-Supp B_00020	LCS	voaWater	20.00	mL	1.000
280-0071996-008 	# 8 MB 		MB	voaWater	20.00	mL	1.000
280-0071996-009 	# 9 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071996-010 	#10 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071996-011 	#11 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071996-012 	#12 ICV 	MV-Main B_00020 MV-568718-D_00008	ICV	voaWater	20.00	mL	1.000
280-0071996-013 	#13 280-111186-A-31 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-014 	#14 280-111186-B-32 		Client	voaWater	20.00	mL	1.000
280-0071996-015 	#15 280-111186-D-33 		Client	voaWater	20.00	mL	1.000
280-0071996-016 	#16 280-111186-C-34 		Client	voaWater	20.00	mL	1.000
280-0071996-017 	#17 280-111186-D-35 		Client	voaWater	20.00	mL	1.000
280-0071996-018 	#18 280-111186-B-36 		Client	voaWater	20.00	mL	1.000
280-0071996-019 	#19 280-111655-D-2 		Client	voaWater	20.00	mL	1.000
280-0071996-020 	#20 280-111655-D-2 		Client	voaWater	20.00	mL	4.000
280-0071996-021 	#21 280-111655-B-2 MS 	MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043 MV-Main B_00020	MS	voaWater	20.00	mL	1.000
280-0071996-022 	#22 280-111655-B-2 MSD 	MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043 MV-Main B_00020	MSD	voaWater	20.00	mL	1.000
280-0071996-023 	#23 280-111655-C-3 		Client	voaWater	20.00	mL	2.000
280-0071996-024 	#24 280-111655-C-3 		Client	voaWater	20.00	mL	20.00
280-0071996-025 	#25 280-111655-E-4 		Client	voaWater	20.00	mL	2.000
280-0071996-026 	#26 280-111655-E-4 		Client	voaWater	20.00	mL	20.00
280-0071996-027 	#27 280-111655-C-5 		Client	voaWater	20.00	mL	1.000
280-0071996-028 	#28 280-111655-D-6 		Client	voaWater	20.00	mL	1.000
280-0071996-029 	#29 280-111847-G-1 		Client	voaWater	20.00	mL	1.000
280-0071996-030 	#30 280-111847-C-2 		Client	voaWater	20.00	mL	1.000
280-0071996-031 	#31 280-111847-A-3 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-032 	#32 280-111850-B-1 		Client	voaWater	20.00	mL	1.000
280-0071996-033 	#33 280-111850-H-2 		Client	voaWater	20.00	mL	1.000
280-0071996-034 	#34 280-111850-H-3 		Client	voaWater	20.00	mL	1.000
280-0071996-035 	#35 280-111850-H-4 		Client	voaWater	20.00	mL	1.000
280-0071996-036 	#36 Samp 36 		Client	voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\071818.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\071818.s\

Test America Denver

Pre-Seq Cmd:

Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch  
(X) Full Method (X) Inject Anyway  
( ) Reprocessing Only ( ) Don't Inject

Document: Q  
V-MS-0010 (8260/824) (Circle)  
Purge Volume: (20mL/5mL/5g)  
Time Time: 0852-20.36 (Circle)  
472639

Line Type Vial DataFile Method Sample Name

1 Sample	100 Q5756	BFB	BFB
2 Sample	100 Q5757	BFB	BFB
3 Sample	10 Q5758	8260	BLK
4 Sample	11 Q5759	8260	CCV
5 Sample	12 Q5760	8260	CCV
6 Sample	13 Q5761	8260	CCV 5->6
7 Sample	14 Q5762	8260	CCV 5->6
8 Sample	15 Q5763	8260	LCS
9 Sample	16 Q5764	8260	MB
10 Sample	17 Q5765	8260	280-111985-c-4 PH<2
11 Sample	18 Q5766	8260	280-111985-e-4 MS PH<2
12 Sample	19 Q5767	8260	280-111985-e-4 MSD PH<2
13 Sample	20 Q5768	8260	280-111985-e-1 0.2mL PH<2
14 Sample	21 Q5769	8260	280-111985-d-2 PH<2
15 Sample	22 Q5770	8260	280-111985-d-3 PH<2
16 Sample	23 Q5771	8260	280-111985-d-5 PH<2
17 Sample	24 Q5772	8260	280-111985-e-6 PH<2
18 Sample	25 Q5773	8260	280-111985-d-7 PH<2
19 Sample	26 Q5774	8260	280-111985-d-8 2mL PH<2
20 Sample	27 Q5775	8260	280-111985-d-9 0.2mL PH<2
21 Sample	28 Q5776	8260	280-111985-e-10 PH<2
22 Sample	29 Q5777	8260	280-111985-d-11 PH<2
23 Sample	30 Q5778	8260	280-111985-f-12 PH<2
24 Sample	31 Q5779	8260	280-111985-d-13 PH<2
25 Sample	32 Q5780	8260	280-111985-c-14 PH<2
26 Sample	33 Q5781	8260	280-111843-f-1 PH<2
27 Sample	34 Q5782	8260	280-111843-f-2 PH<2
28 Sample	35 Q5783	8260	280-111843-f-3 PH<2
29 Sample	36 Q5784	8260	280-111843-a-4 PH<2
30 Sample	37 Q5785	8260	280-111864-b-1 0.2mL PH<2
31 Sample	38 Q5786	8260	280-111864-b-1 .02mL PH<2
32 Sample	39 Q5787	8260	280-111864-c-2 0.1mL PH<2
33 Sample	40 Q5788	8260	280-111864-c-2 .01mL PH<2
34 Sample	41 Q5789	8260	280-111985-d-9 0.2mL PH<2













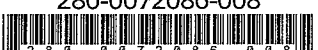













7/19/18

20.36  
2059  
21.21 } out of  
time







































TestAmerica Laboratories  
Worklist Report










Worklist Name: 071818      Worklist Number: 72086  
 Instrument Name: VMS\_Q      Chrom Method: AQ\_VMSQ\_8260  
 Purge Volume: 20.00      Units: mL  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180718-72086.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q  
 Run Reagent: MV-568718-D\_00008      Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00098      Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072086-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0072086-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0072086-003 	# 3 CCV 	MV-Supp A_00031	CCV	voaWater	20.00	mL	1.000
280-0072086-012 	#12 CCV 	MV-Gas/Ket A_00070 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0072086-006 	# 6 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCS	voaWater	20.00	mL	1.000
280-0072086-007 	# 7 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCSD	voaWater	20.00	mL	1.000
280-0072086-008 	# 8 MB 		MB	voaWater	20.00	mL	1.000
280-0072086-009 	# 9 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0072086-010 	#10 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0072086-011 	#11 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0072086-014 	#14 280-111985-C-4 		Client	voaWater	20.00	mL	1.000
280-0072086-015 	#15 280-111985-E-4 MS 	MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043 MV-Main B_00020	MS	voaWater	20.00	mL	1.000
280-0072086-016 	#16 280-111985-E-4 MSD 		MSD	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072086-017 	#17 280-111985-E-1 		Client	voaWater	20.00	mL	100.0
280-0072086-018 	#18 280-111985-D-2 		Client	voaWater	20.00	mL	1.000
280-0072086-019 	#19 280-111985-D-3 		Client	voaWater	20.00	mL	1.000
280-0072086-020 	#20 280-111985-D-5 		Client	voaWater	20.00	mL	1.000
280-0072086-021 	#21 280-111985-E-6 		Client	voaWater	20.00	mL	1.000
280-0072086-022 	#22 280-111985-D-7 		Client	voaWater	20.00	mL	1.000
280-0072086-023 	#23 280-111985-D-8 		Client	voaWater	20.00	mL	10.00
280-0072086-024 	#24 280-111985-D-9 		Client	voaWater	20.00	mL	100.0
280-0072086-025 	#25 280-111985-E-10 		Client	voaWater	20.00	mL	1.000
280-0072086-026 	#26 280-111985-D-11 		Client	voaWater	20.00	mL	1.000
280-0072086-027 	#27 280-111985-F-12 		Client	voaWater	20.00	mL	1.000
280-0072086-028 	#28 280-111985-D-13 		Client	voaWater	20.00	mL	1.000
280-0072086-029 	#29 280-111985-C-14 		Client	voaWater	20.00	mL	1.000
280-0072086-030 	#30 280-111843-F-1 		Client	voaWater	20.00	mL	1.000
280-0072086-031 	#31 280-111843-F-2 		Client	voaWater	20.00	mL	1.000
280-0072086-032 	#32 280-111843-F-3 		Client	voaWater	20.00	mL	1.000
280-0072086-033 	#33 280-111843-A-4 		Client	voaWater	20.00	mL	1.000
280-0072086-034 	#34 280-111864-B-1 		Client	voaWater	20.00	mL	100.0



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072086-035 	#35 280-111864-B-1 		Client	voaWater	20.00	mL	1000.0
280-0072086-036 	#36 280-111864-C-2 		Client	voaWater	20.00	mL	200.0
280-0072086-037 	#37 280-111864-C-2 		Client	voaWater	20.00	mL	2000.0
280-0072086-038 	#38 primer 		Client	voaWater	20.00	mL	1.000
280-0072086-039 	#39 primer 		Client	voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\071918.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\071918\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument:

IV-MS-0010 (8260/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 0826-1943

Time Retain:

422809

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Line Type Vial DataFile Method Sample Name

1 Sample	100 P7944	BFB	BFB	0826
2 Sample	10 P7945	8260	CCV	
3 Sample	11 P7946	8260	CCV	
4 Sample	12 P7947	8260	STD003	
5 Sample	13 P7948	8260	STD010	
6 Sample	14 P7949	8260	STD020	
7 Sample	15 P7950	8260	STD050	
8 Sample	16 P7951	8260	ICIS	
9 Sample	17 P7952	8260	STD30	
10 Sample	18 P7953	8260	STD60	
11 Sample	19 P7954	8260	BLK	
12 Sample	20 P7955	8260	ICV	
13 Sample	21 P7956	8260	MB	
14 Sample	22 P7957	8260	LCS	
15 Sample	23 P7958	8260	280-111936-a-19 PH=7	
16 Sample	24 P7959	8260	280-111936-A-5 PH=7	
17 Sample	25 P7960	8260	280-111936-A-10 PH=7	
18 Sample	26 P7961	8260	280-111936-A-15 PH=7	
19 Sample	27 P7962	8260	280-111864-b-1 .01mL PH<2	
20 Sample	28 P7963	8260	280-111864-c-2 .01mL PH<2	
21 Sample	29 P7964	8260	280-111985-f-9 0.2mL PH<2	
22 Sample	30 P7965	8260	280-111749-f-1 PH<2	
23 Sample	31 P7966	8260	280-111749-e-1 MS PH<2	
24 Sample	32 P7967	8260	280-111749-e-1 MSD PH<2	
25 Sample	33 P7968	8260	280-111749-g-2 PH<2	
26 Sample	34 P7969	8260	280-111749-b-3 PH<2	
27 Sample	35 P7970	8260	CCVC	
28 Sample	36 P7971	8260	280-111884-b-1 PH<2	
29 Sample	37 P7972	8260	280-111884-d-2 PH<2	
30 Sample	38 P7973	8260	280-111884-e-3 PH<2	
31 Sample	39 P7974	8260	280-111884-c-4 10ML PH<2	
32 Sample	40 P7975	8260	280-111884-c-4 1ML PH<2	
33 Sample	41 P7976	8260	280-111884-d-5 PH<2	

7/20/18











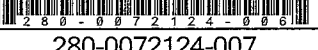

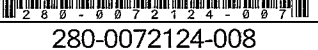
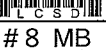
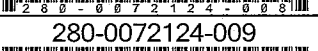
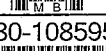
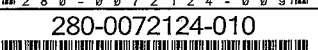
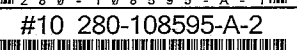

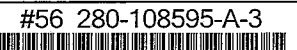


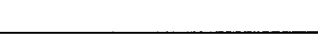
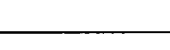
19:43




















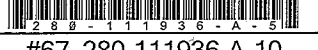
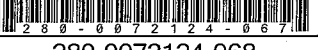







TestAmerica Laboratories  
Worklist Report

Worklist Name: 071918  
 Instrument Name: VMS\_P  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_P\20180719-72124.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_P  
 Run Reagent: MV-568718-D\_00010  
 Run Reagent: MV-ARCH SS A\_00098



























Worklist Number: 72124  
 Chrom Method: AQ\_VMSP\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072124-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0072124-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-568718-D_00010 MV-Main A_00037 MV-Gas/Ket B_00044	CCV		voaWater	20.00	mL	1.000
280-0072124-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00010	CCV		voaWater	20.00	mL	1.000
280-0072124-004 	# 4 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00044	LCS		voaWater	20.00	mL	1.000
280-0072124-005 	# 5 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00044	LCSD		voaWater	20.00	mL	1.000
280-0072124-006 	# 6 LCS 	MV-Supp B_00020	LCS		voaWater	20.00	mL	1.000
280-0072124-007 	# 7 LCSD 	MV-Supp B_00020	LCSD		voaWater	20.00	mL	1.000
280-0072124-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0072124-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0072124-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0072124-056 	#56 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0072124-057 	#57 STD003 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00010 MV-ARCH SS A_00100	IC	1	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072124-058 	#58 STD010 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00010 MV-ARCH SS A_00100	IC	2	voaWater	20.00	mL	1.000
280-0072124-059 	#59 STD020 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00010 MV-ARCH SS A_00100	IC	3	voaWater	20.00	mL	1.000
280-0072124-060 	#60 STD050 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00010 MV-ARCH SS A_00100	IC	4	voaWater	20.00	mL	1.000
280-0072124-061 	#61 ICIS 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00010 MV-ARCH SS A_00100	ICIS	5	voaWater	20.00	mL	1.000
280-0072124-062 	#62 STD30 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00010 MV-ARCH SS A_00100	IC	6	voaWater	20.00	mL	1.000
280-0072124-063 	#63 STD60 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00010 MV-ARCH SS A_00100	IC	7	voaWater	20.00	mL	1.000
280-0072124-064 	#64 ICV 	MV-568718-D_00010 MV-Gas/Ket B_00044 MV-Main B_00020 MV-SS 2-Cleve_00043 MV-ARCH SS A_00100	ICV		voaWater	20.00	mL	1.000
280-0072124-065 	#65 280-111936-A-19 		Client		voaWater	20.00	mL	1.000
280-0072124-066 	#66 280-111936-A-5 		Client		voaWater	20.00	mL	1.000
280-0072124-067 	#67 280-111936-A-10 		Client		voaWater	20.00	mL	1.000
280-0072124-068 	#68 280-111936-A-15 		Client		voaWater	20.00	mL	1.000
280-0072124-069 	#69 280-111864-B-1 		Client		voaWater	20.00	mL	2000.0
280-0072124-070 	#70 280-111864-C-2 		Client		voaWater	20.00	mL	2000.0



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072124-071 	#71 280-111985-F-9 		Client		voaWater	20.00	mL	100.0
280-0072124-072 	#72 280-111749-F-1 		Client		voaWater	20.00	mL	1.000
280-0072124-073 	#73 280-111749-E-1 MS 	MV-Gas/Ket B_00044 MV-Main B_00020 MV-SS 2-Cleve_00043	MS		voaWater	20.00	mL	1.000
280-0072124-074 	#74 280-111749-E-1 MSD 	MV-Gas/Ket B_00044 MV-Main B_00020 MV-SS 2-Cleve_00043	MSD		voaWater	20.00	mL	1.000
280-0072124-075 	#75 280-111749-G-2 		Client		voaWater	20.00	mL	1.000
280-0072124-076 	#76 280-111749-B-3 		Client		voaWater	20.00	mL	1.000
280-0072124-077 	#77 280-111884-B-1 		Client		voaWater	20.00	mL	1.000
280-0072124-078 	#78 280-111884-D-2 		Client		voaWater	20.00	mL	1.000
280-0072124-079 	#79 280-111884-E-3 		Client		voaWater	20.00	mL	1.000
280-0072124-080 	#80 280-111884-C-4 		Client		voaWater	20.00	mL	2.000
280-0072124-081 	#81 280-111884-C-4 		Client		voaWater	20.00	mL	20.00
280-0072124-082 	#82 280-111884-D-5 		Client		voaWater	20.00	mL	1.000
280-0072124-083 	#83 CCVC 	MV-Gas/Ket A_00075 MV-Main A_00037 MV-2cleve+AVA_00036	CCVC		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\062318I.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\062318I\

Pre-Seq Cmd:

Post-Seq Cmd:

Main/Supp water

Test America Denver

Instrument:

MS-0010 (2200R/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 11:37-20:33

419732

WL 71303

main

Calib. 32812

ICV 19

Supp Calib. 32813

ICIS 23 ICV 26

Acrolein -35.1%

\* not calibrated for \*  
tetrahydrothiophene

6/26/18  
6-26-18

Method Sections To Run On A Barcode Mismatch

(X) Full Method

(X) Inject Anyway

( ) Reprocessing Only

( ) Don't Inject

Line Type Vial DataFile Method Sample Name

1 Sample	100 P7456	BFB	BFB
2 Sample	100 P7457	BFB	BFB
3 Sample	10 P7458	8260	BLK
4 Sample	11 P7459	8260	STD003
5 Sample	12 P7460	8260	STD010
6 Sample	13 P7461	8260	STD020
7 Sample	14 P7462	8260	STD050
8 Sample	15 P7463	8260	STD10
9 Sample	16 P7464	8260	STD30
10 Sample	17 P7465	8260	STD60
11 Sample	18 P7466	8260	BLK
12 Sample	19 P7467	8260	ICV
13 Sample	20 P7468	8260	STD010
14 Sample	21 P7469	8260	STD020
15 Sample	22 P7470	8260	STD050
16 Sample	23 P7471	8260	ICIS
17 Sample	24 P7472	8260	STD30
18 Sample	25 P7473	8260	STD60
19 Sample	26 P7474	8260	BLK
20 Sample	27 P7475	8260	ICV
21 Sample	28 P7476	8260	280-111104-A-1 MDLV
22 Sample	29 P7477	8260	280-111104-A-2 MDLV
23 Sample	30 P7478	8260	280-111104-A-3 MDLV
24 Sample	31 P7479	8260	280-111104-A-4 MDLV
25 Sample	32 P7480	8260	280-111104-A-5 MDLV
26 Sample	33 P7481	8260	280-111104-A-7 MDLV
27 Sample	34 P7482	8260	280-111104-A-8 MDLV
28 Sample	35 P7483	8260	280-111104-A-9 MDLV
29 Sample	36 P7484	8260	280-111104-A-10 MDLV
30 Sample	37 P7485	8260	280-111104-A-11 MDLV
31 Sample	38 P7486	8260	SCRN 280-110836-c-1
32 Sample	39 P7487	8260	SCRN 280-110836-c-2
33 Sample	40 P7488	8260	SCRN 280-110836-c-3
34 Sample	41 P7489	8260	SCRN 280-110836-c-4
35 Sample	42 P7490	8260	BLK









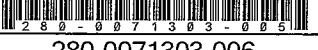

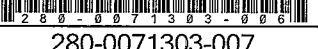

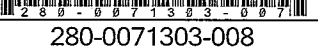
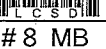
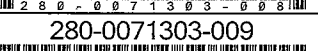
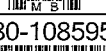
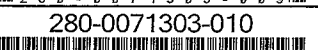
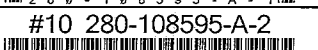

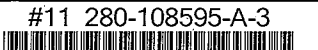



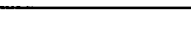


TestAmerica Laboratories  
Worklist Report















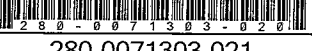
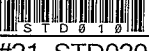
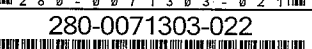





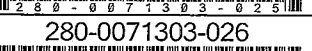
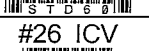






Worklist Name: 062318I  
 Instrument Name: VMS\_P  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_P\20180623-71303.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_P  
 Run Reagent: MV-568718-D\_00010  
 Run Reagent: MV-ARCH SS A\_00098

Worklist Number: 71303  
 Chrom Method: AQ\_VMSP\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.880, Units: uL











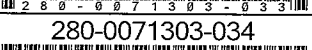
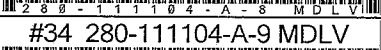



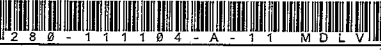
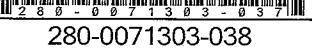


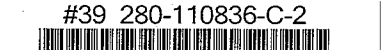


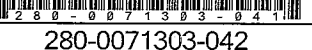


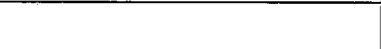




Page 140 of 173

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071303-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071303-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-568718-D_00010 MV-Main A_00036 MV-Gas/Ket A_00073	CCV		voaWater	20.00	mL	1.000
280-0071303-003 	# 3 CCV 	MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0071303-004 	# 4 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00041	LCS		voaWater	20.00	mL	1.000
280-0071303-005 	# 5 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00041	LCSD		voaWater	20.00	mL	1.000
280-0071303-006 	# 6 LCS 	MV-Supp B_00020	LCS		voaWater	20.00	mL	1.000
280-0071303-007 	# 7 LCSD 	MV-Supp B_00020	LCSD		voaWater	20.00	mL	1.000
280-0071303-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0071303-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071303-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071303-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071303-012 	#12 STD003 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	1	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071303-013 	#13 STD010 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	2	voaWater	20.00	mL	1.000
280-0071303-014 	#14 STD020 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	3	voaWater	20.00	mL	1.000
280-0071303-015 	#15 STD050 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	4	voaWater	20.00	mL	1.000
280-0071303-016 	#16 STD10 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	5	voaWater	20.00	mL	1.000
280-0071303-017 	#17 STD30 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	6	voaWater	20.00	mL	1.000
280-0071303-018 	#18 STD60 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	7	voaWater	20.00	mL	1.000
280-0071303-019 	#19 ICV 	MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043 MV-Main B_00020 MV-568718-D_00010	ICV		voaWater	20.00	mL	1.000
280-0071303-020 	#20 STD010 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	2	voaWater	20.00	mL	1.000
280-0071303-021 	#21 STD020 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	3	voaWater	20.00	mL	1.000
280-0071303-022 	#22 STD050 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	4	voaWater	20.00	mL	1.000
280-0071303-023 	#23 ICIS 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	ICIS	5	voaWater	20.00	mL	1.000
280-0071303-024 	#24 STD30 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	6	voaWater	20.00	mL	1.000
280-0071303-025 	#25 STD60 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	7	voaWater	20.00	mL	1.000
280-0071303-026 	#26 ICV 	MV-Supp B_00020 MV-ARCH SS A_00099 MV-568718-D_00010	ICV		voaWater	20.00	mL	1.000
280-0071303-027 	#27 280-111104-A-1 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071303-028 	#28 280-111104-A-2 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-029 	#29 280-111104-A-3 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-030 	#30 280-111104-A-4 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-031 	#31 280-111104-A-5 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-032 	#32 280-111104-A-7 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-033 	#33 280-111104-A-8 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-034 	#34 280-111104-A-9 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-035 	#35 280-111104-A-10 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-036 	#36 280-111104-A-11 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-037 	#37 Screens 		Client		voaWater	20.00	mL	1.000
280-0071303-038 	#38 280-110836-C-1 		Client		voaWater	20.00	mL	1.000
280-0071303-039 	#39 280-110836-C-2 		Client		voaWater	20.00	mL	1.000
280-0071303-040 	#40 280-110836-C-3 		Client		voaWater	20.00	mL	1.000
280-0071303-041 	#41 280-110836-C-4 		Client		voaWater	20.00	mL	1.000
280-0071303-042 	#42 Samp 42 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\062318I.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\062318I\

Pre-Seq Cmd:

Post-Seq Cmd:

Main/Supp water

Test America Denver

Instrument:

MS-0010 (2200R/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 11:37-20:33

Line Data: 419732

WL 71303

main

Calib: 32812

ICV 19

Supp Calib: 32813

ICIS 23 ICV 26

Acrolein -35.1%

\* not calibrated for \*  
tetrahydrothiophene

HC  
ph

6/26/18

6-26-18

Method Sections To Run On A Barcode Mismatch

(X) Full Method

(X) Inject Anyway

( ) Reprocessing Only

( ) Don't Inject

Line Type Vial DataFile Method Sample Name









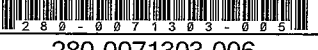

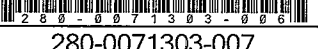

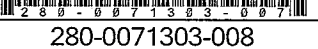
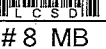
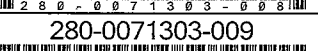
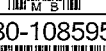
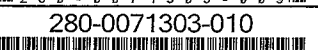
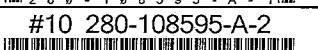

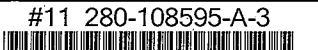



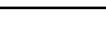
1 Sample	100 P7456	BFB	BFB
2 Sample	100 P7457	BFB	BFB
3 Sample	10 P7458	8260	BLK
4 Sample	11 P7459	8260	STD003
5 Sample	12 P7460	8260	STD010
6 Sample	13 P7461	8260	STD020
7 Sample	14 P7462	8260	STD050
8 Sample	15 P7463	8260	STD10
9 Sample	16 P7464	8260	STD30
10 Sample	17 P7465	8260	STD60
11 Sample	18 P7466	8260	BLK
12 Sample	19 P7467	8260	ICV
13 Sample	20 P7468	8260	STD010
14 Sample	21 P7469	8260	STD020
15 Sample	22 P7470	8260	STD050
16 Sample	23 P7471	8260	ICIS
17 Sample	24 P7472	8260	STD30
18 Sample	25 P7473	8260	STD60
19 Sample	26 P7474	8260	BLK
20 Sample	27 P7475	8260	ICV
21 Sample	28 P7476	8260	280-111104-A-1 MDLV
22 Sample	29 P7477	8260	280-111104-A-2 MDLV
23 Sample	30 P7478	8260	280-111104-A-3 MDLV
24 Sample	31 P7479	8260	280-111104-A-4 MDLV
25 Sample	32 P7480	8260	280-111104-A-5 MDLV
26 Sample	33 P7481	8260	280-111104-A-7 MDLV
27 Sample	34 P7482	8260	280-111104-A-8 MDLV
28 Sample	35 P7483	8260	280-111104-A-9 MDLV
29 Sample	36 P7484	8260	280-111104-A-10 MDLV
30 Sample	37 P7485	8260	280-111104-A-11 MDLV
31 Sample	38 P7486	8260	SCRN 280-110836-c-1
32 Sample	39 P7487	8260	SCRN 280-110836-c-2
33 Sample	40 P7488	8260	SCRN 280-110836-c-3
34 Sample	41 P7489	8260	SCRN 280-110836-c-4
35 Sample	42 P7490	8260	BLK

















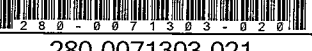
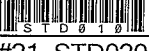
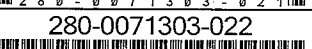





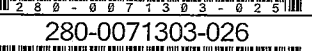
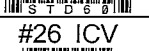






TestAmerica Laboratories  
Worklist Report

Worklist Name: 062318I  
 Instrument Name: VMS\_P  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_P\20180623-71303.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_P  
 Run Reagent: MV-568718-D\_00010  
 Run Reagent: MV-ARCH SS A\_00098

















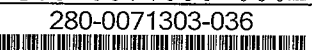
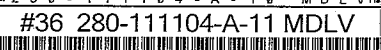
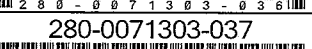
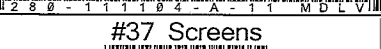
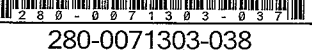


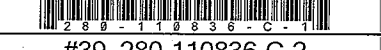
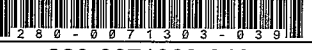





Worklist Number: 71303  
 Chrom Method: AQ\_VMSP\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.880, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071303-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071303-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-568718-D_00010 MV-Main A_00036 MV-Gas/Ket A_00073	CCV		voaWater	20.00	mL	1.000
280-0071303-003 	# 3 CCV 	MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0071303-004 	# 4 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00041	LCS		voaWater	20.00	mL	1.000
280-0071303-005 	# 5 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00041	LCSD		voaWater	20.00	mL	1.000
280-0071303-006 	# 6 LCS 	MV-Supp B_00020	LCS		voaWater	20.00	mL	1.000
280-0071303-007 	# 7 LCSD 	MV-Supp B_00020	LCSD		voaWater	20.00	mL	1.000
280-0071303-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0071303-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071303-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071303-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071303-012 	#12 STD003 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	1	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071303-013 	#13 STD010 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	2	voaWater	20.00	mL	1.000
280-0071303-014 	#14 STD020 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	3	voaWater	20.00	mL	1.000
280-0071303-015 	#15 STD050 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	4	voaWater	20.00	mL	1.000
280-0071303-016 	#16 STD10 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	5	voaWater	20.00	mL	1.000
280-0071303-017 	#17 STD30 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	6	voaWater	20.00	mL	1.000
280-0071303-018 	#18 STD60 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	IC	7	voaWater	20.00	mL	1.000
280-0071303-019 	#19 ICV 	MV-Gas/Ket B_00041 MV-SS 2-Cleve_00043 MV-Main B_00020 MV-568718-D_00010	ICV		voaWater	20.00	mL	1.000
280-0071303-020 	#20 STD010 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	2	voaWater	20.00	mL	1.000
280-0071303-021 	#21 STD020 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	3	voaWater	20.00	mL	1.000
280-0071303-022 	#22 STD050 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	4	voaWater	20.00	mL	1.000
280-0071303-023 	#23 ICIS 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	ICIS	5	voaWater	20.00	mL	1.000
280-0071303-024 	#24 STD30 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	6	voaWater	20.00	mL	1.000
280-0071303-025 	#25 STD60 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	IC	7	voaWater	20.00	mL	1.000
280-0071303-026 	#26 ICV 	MV-Supp B_00020 MV-ARCH SS A_00099 MV-568718-D_00010	ICV		voaWater	20.00	mL	1.000
280-0071303-027 	#27 280-111104-A-1 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071303-028 	#28 280-111104-A-2 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-029 	#29 280-111104-A-3 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-030 	#30 280-111104-A-4 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-031 	#31 280-111104-A-5 MDLV 	MV-Gas/Ket A_00073 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-032 	#32 280-111104-A-7 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-033 	#33 280-111104-A-8 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-034 	#34 280-111104-A-9 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-035 	#35 280-111104-A-10 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-036 	#36 280-111104-A-11 MDLV 	MV-Supp A_00029 MV-ARCH SS A_00099 MV-568718-D_00010	MDLV		voaWater	20.00	mL	1.000
280-0071303-037 	#37 Screens 		Client		voaWater	20.00	mL	1.000
280-0071303-038 	#38 280-110836-C-1 		Client		voaWater	20.00	mL	1.000
280-0071303-039 	#39 280-110836-C-2 		Client		voaWater	20.00	mL	1.000
280-0071303-040 	#40 280-110836-C-3 		Client		voaWater	20.00	mL	1.000
280-0071303-041 	#41 280-110836-C-4 		Client		voaWater	20.00	mL	1.000
280-0071303-042 	#42 Samp 42 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\0625181.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\0625181.s\

Pre-Seq Cmd:

Post-Seq Cmd:

Supp / Penta chloroethane

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Line Type Vial DataFile Method Sample Name

1 Sample	100 Q4999	BFB	BFB
2 Sample	10 Q5000	8260	BLK
3 Sample	11 Q5001	8260	STD003
4 Sample	12 Q5002	8260	STD010
5 Sample	13 Q5003	8260	STD020
6 Sample	14 Q5004	8260	STD050
7 Sample	15 Q5005	8260	STD10
8 Sample	16 Q5006	8260	STD30
9 Sample	17 Q5007	8260	STD60
10 Sample	18 Q5008	8260	BLK
11 Sample	19 Q5009	8260	ICV
12 Sample	20 Q5010	8260	STD010
13 Sample	21 Q5011	8260	STD020
14 Sample	22 Q5012	8260	ICV
15 Sample	23 Q5013	8260	ICIS
16 Sample	24 Q5014	8260	STD30
17 Sample	25 Q5015	8260	STD60
18 Sample	26 Q5016	8260	STD050
19 Sample	27 Q5017	8260	BLK
20 Sample	28 Q5018	8260	ICV
21 Sample	29 Q5019	8260	MDLV .2
22 Sample	30 Q5020	8260	STD003
23 Sample	31 Q5021	8260	STD010
24 Sample	32 Q5022	8260	STD020
25 Sample	33 Q5023	8260	STD050
26 Sample	34 Q5024	8260	STD10
27 Sample	35 Q5025	8260	STD30
28 Sample	36 Q5026	8260	STD60
29 Sample	37 Q5027	8260	ICV
30 Sample	38 Q5028	8260	MDLV .4
31 Sample	39 Q5029	8260	MDLV .8
32 Sample	40 Q5030	8260	MDLV 1.6
33 Sample	41 Q5031	8260	MDLV 3.2
34 Sample	42 Q5032	8260	MDLV .2
35 Sample	43 Q5033	8260	MDLV .4
36 Sample	44 Q5034	8260	MDLV .8
37 Sample	45 Q5035	8260	MDLV 1.6
38 Sample	46 Q5036	8260	MDLV 3.2
39 Sample	47 Q5037	8260	PR
40 Sample	48 Q5038	8260	PR

Test America Denver

Instrument:

DV-MS-0010 (8260/624) (Circle)

Purge Volume: (20mL/5mL/5g)

Tune Time: 0850-1852 (Circle)

Lims Batch: 419807

Calib Supp

32817

ICV ICIS

Calib Pent

32818

ICV

Not Calibrated For

\* Acetonitrile \* \* n-Butanol \*

6/26/18

2<sup>nd</sup> level: Taw 6-27-18











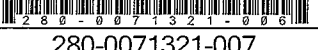

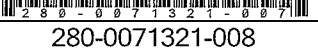
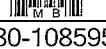
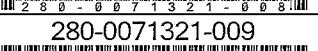
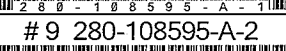
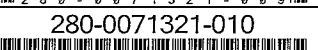
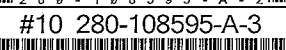


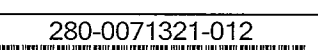

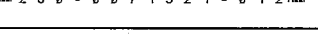
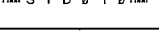


TestAmerica Laboratories  
Worklist Report











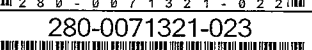

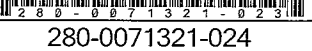
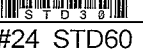




Worklist Name: 062518I  
 Instrument Name: VMS\_Q  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180625-71321.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q  
 Run Reagent: MV-568718-D\_00008  
 Run Reagent: MV-ARCH SS A\_00098

Worklist Number: 71321  
 Chrom Method: AQ\_VMSQ\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.880, Units: uL















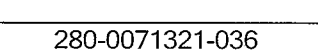
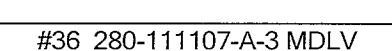
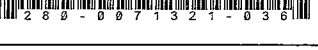
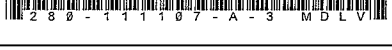




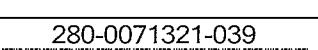
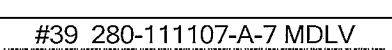
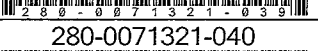
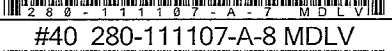
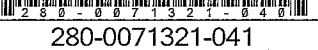
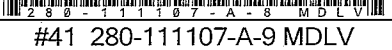
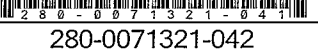
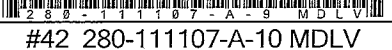
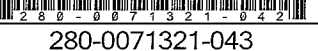
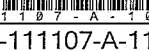
Page 148 of 173

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071321-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071321-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-568718-D_00008 MV-Main A_00036 MV-Gas/Ket A_00070	CCV		voaWater	20.00	mL	1.000
280-0071321-003 	# 3 CCV 	MV-Supp A_00029	CCV		voaWater	20.00	mL	1.000
280-0071321-004 	# 4 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00040	LCS		voaWater	20.00	mL	1.000
280-0071321-005 	# 5 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00040	LCSD		voaWater	20.00	mL	1.000
280-0071321-006 	# 6 LCS 	MV-Supp B_00020	LCS		voaWater	20.00	mL	1.000
280-0071321-007 	# 7 MB 		MB		voaWater	20.00	mL	1.000
280-0071321-008 	# 8 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071321-009 	# 9 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071321-010 	#10 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071321-011 	#11 STD003 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	IC	1	voaWater	20.00	mL	1.000
280-0071321-012 	#12 STD010 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	IC	2	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071321-013 	#13 STD020 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	IC	3	voaWater	20.00	mL	1.000
280-0071321-014 	#14 STD050 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	IC	4	voaWater	20.00	mL	1.000
280-0071321-015 	#15 STD10 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	IC	5	voaWater	20.00	mL	1.000
280-0071321-016 	#16 STD30 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	IC	6	voaWater	20.00	mL	1.000
280-0071321-017 	#17 STD60 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	IC	7	voaWater	20.00	mL	1.000
280-0071321-018 	#18 ICV 	MV-568718-D_00008 MV-SS 2-Cleve_00043 MV-Main B_00020	ICV		voaWater	20.00	mL	1.000
280-0071321-019 	#19 STD010 	MV-Supp A_00029 MV-ARCH SS A_00098 MV-568718-D_00008	IC	2	voaWater	20.00	mL	1.000
280-0071321-020 	#20 STD020 	MV-Supp A_00029 MV-ARCH SS A_00098 MV-568718-D_00008	IC	3	voaWater	20.00	mL	1.000
280-0071321-021 	#21 STD050 	MV-Supp A_00029 MV-ARCH SS A_00098 MV-568718-D_00008	IC	4	voaWater	20.00	mL	1.000
280-0071321-022 	#22 ICIS 	MV-Supp A_00029 MV-ARCH SS A_00098 MV-568718-D_00008	ICIS	5	voaWater	20.00	mL	1.000
280-0071321-023 	#23 STD30 	MV-Supp A_00029 MV-ARCH SS A_00098 MV-568718-D_00008	IC	6	voaWater	20.00	mL	1.000
280-0071321-024 	#24 STD60 	MV-Supp A_00029 MV-ARCH SS A_00098 MV-568718-D_00008	IC	7	voaWater	20.00	mL	1.000
280-0071321-025 	#25 ICV 	MV-Supp B_00020 MV-ARCH SS A_00098 MV-568718-D_00008	ICV		voaWater	20.00	mL	1.000
280-0071321-026 	#26 STD003 	mv-Pentachlor_00010 MV-568718-D_00008	IC	1	voaWater	20.00	mL	1.000
280-0071321-027 	#27 STD010 	mv-Pentachlor_00010 MV-568718-D_00008	IC	2	voaWater	20.00	mL	1.000
280-0071321-028 	#28 STD020 	mv-Pentachlor_00010 MV-568718-D_00008	IC	3	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071321-029 	#29 STD050 	mv-Pentachlor_00010 MV-568718-D_00008	IC	4	voaWater	20.00	mL	1.000
280-0071321-030 	#30 STD10 	mv-Pentachlor_00010 MV-568718-D_00008	IC	5	voaWater	20.00	mL	1.000
280-0071321-031 	#31 STD30 	mv-Pentachlor_00010 MV-568718-D_00008	IC	6	voaWater	20.00	mL	1.000
280-0071321-032 	#32 STD60 	mv-Pentachlor_00010 MV-568718-D_00008	IC	7	voaWater	20.00	mL	1.000
280-0071321-033 	#33 ICV 	mv-pentachloB_00008 MV-568718-D_00008	ICV		voaWater	20.00	mL	1.000
280-0071321-034 	#34 280-111108-A-1 MDLV 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-035 	#35 280-111108-A-2 MDLV 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-036 	#36 280-111107-A-3 MDLV 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-037 	#37 280-111107-A-4 MDLV 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-038 	#38 280-111107-A-5 MDLV 	MV-Gas/Ket A_00070 MV-Main A_00036 MV-2cleve+AVA_00036 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-039 	#39 280-111107-A-7 MDLV 	MV-Supp A_00029 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-040 	#40 280-111107-A-8 MDLV 	MV-Supp A_00029 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-041 	#41 280-111107-A-9 MDLV 	MV-Supp A_00029 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-042 	#42 280-111107-A-10 MDLV 	MV-Supp A_00029 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-043 	#43 280-111107-A-11 MDLV 	MV-Supp A_00029 MV-568718-D_00008	MDLV		voaWater	20.00	mL	1.000
280-0071321-044 	#44 Samp 44 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\071218I.S

Comment:

Operator: MEIERG

Data Path: C:\HPCHEM\1\DATA\071218I.S\

Pre-Seq Cmd:

Post-Seq Cmd:

*main/GAS/SS/2-Clene*

Test America Denver

Instrument: *Q*

DV-MS-0010 (8260S/624) (Circle)

Purge Volume: (20mL/5mL/5g)

Tune Time: *13:44-17:11* (Circle)

Lims Batch: *422015*

Method Sections To Run On A Barcode Mismatch  
(X) Full Method (X) Inject Anyway  
( ) Reprocessing Only ( ) Don't Inject

Line Type Vial DataFile Method Sample Name

1 Sample	100 Q5623	BFB	BFB
2 Sample	1 Q5624	8260	IC
3 Sample	2 Q5625	8260	IC
4 Sample	3 Q5626	8260	IC
5 Sample	4 Q5627	8260	IC
6 Sample	5 Q5628	8260	ICIS
7 Sample	6 Q5629	8260	IC
8 Sample	7 Q5630	8260	IC
9 Sample	8 Q5631	8260	BLK
10 Sample	9 Q5632	8260	ICV

*1344*

*WL*

*71920*

*WL*

*71996*

*Calib'*

*33031*

*17:11*

*ICV: 19 422015*

*2nd ICV: 12 422281*

*Not Calibrated For!*

*2-Clene*





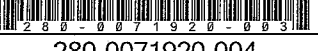

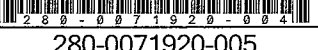

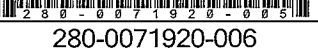
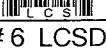
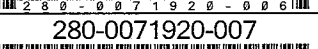

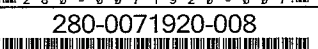









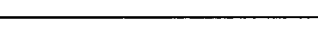
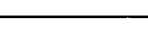
*1st Review [Signature] 7/16/18*

*2nd Review Taw 7-17-18*













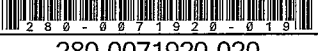

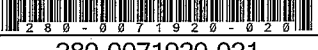

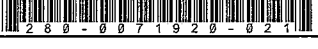



TestAmerica Laboratories  
Worklist Report

Worklist Name: 0712181  
 Instrument Name: VMS\_Q  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180712-71920.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00098 Amount Added: 0.840, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071920-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071920-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00070	CCV		voaWater	20.00	mL	1.000
280-0071920-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00008	CCV		voaWater	20.00	mL	1.000
280-0071920-004 	# 4 CCV 	mv-Pentachlor_00010 MV-568718-D_00008	CCV		voaWater	20.00	mL	1.000
280-0071920-005 	# 5 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCS		voaWater	20.00	mL	1.000
280-0071920-006 	# 6 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCSD		voaWater	20.00	mL	1.000
280-0071920-007 	# 7 LCS 	MV-Supp B_00020	LCS		voaWater	20.00	mL	1.000
280-0071920-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0071920-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071920-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071920-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071920-012 	#12 STD003 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	1	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071920-013 	#13 STD010 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	2	voaWater	20.00	mL	1.000
280-0071920-014 	#14 STD020 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	3	voaWater	20.00	mL	1.000
280-0071920-015 	#15 STD050 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	4	voaWater	20.00	mL	1.000
280-0071920-016 	#16 STD10 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	5	voaWater	20.00	mL	1.000
280-0071920-017 	#17 STD30 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	6	voaWater	20.00	mL	1.000
280-0071920-018 	#18 STD60 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	7	voaWater	20.00	mL	1.000
280-0071920-019 	#19 ICV 	MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	ICV		voaWater	20.00	mL	1.000
280-0071920-020 	#20 primer 		Client		voaWater	20.00	mL	1.000
280-0071920-021 	#21 primer 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\071618.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\071618.s\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument: Q

UV-MS-0010 (82603/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 0855-2018

Ums Batch: 422281

Method Sections To Run On A Barcode Mismatch  
(X) Full Method (X) Inject Anyway  
( ) Reprocessing Only ( ) Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1 Sample	100	Q5635	BFB	BFB 0855
2 Sample	10	Q5636	8260	BLK
3 Sample	11	Q5637	8260	ICV
4 Sample	12	Q5638	8260	CCV
5 Sample	13	Q5639	8260	CCV
6 Sample	14	Q5640	8260	LCS
7 Sample	15	Q5641	8260	MB
8 Sample	16	Q5642	8260	280-111186-a-31 PH<2
9 Sample	17	Q5643	8260	280-111186-b-32 PH<2
10 Sample	18	Q5644	8260	280-111186-d-33 PH<2
11 Sample	19	Q5645	8260	280-111186-c-34 PH<2
12 Sample	20	Q5646	8260	280-111186-d-35 PH<2
13 Sample	21	Q5647	8260	280-111186-b-36 PH<2
14 Sample	22	Q5648	8260	280-111655-d-2 PH<2 E
15 Sample	23	Q5649	8260	280-111655-d-2 5mL PH<2
16 Sample	24	Q5650	8260	280-111655-b-2 MS PH<2
17 Sample	25	Q5651	8260	280-111655-b-2 MSD PH<2
18 Sample	26	Q5652	8260	280-111655-c-3 10ML PH<2 E
19 Sample	27	Q5653	8260	280-111655-c-3 1mL PH<2 BAD Purge E
20 Sample	28	Q5654	8260	280-111655-e-4 10mL PH<2
21 Sample	29	Q5655	8260	280-111655-e-4 1mL PH<2
22 Sample	30	Q5656	8260	280-111655-c-5 PH<2
23 Sample	31	Q5657	8260	280-111655-d-6 PH<2
24 Sample	32	Q5658	8260	280-111847-g-1 PH=7
25 Sample	33	Q5659	8260	280-111847-c-2 PH=7
26 Sample	34	Q5660	8260	280-111847-a-3 PH=7 15d
27 Sample	35	Q5661	8260	280-111850-b-1 PH=7
28 Sample	36	Q5662	8260	280-111850-h-2 PH=7
29 Sample	37	Q5663	8260	280-111850-h-3 PH=7
30 Sample	38	Q5664	8260	280-111850-h-4 PH=7
31 Sample	39	Q5665	8260	280-111655-c-3 1mL PH<2 20:18 DMR
32 Sample	40	Q5666	8260	280-111936-d-1 SCREENS
33 Sample	41	Q5667	8260	280-111936-d-2
34 Sample	42	Q5668	8260	280-111936-d-3
35 Sample	43	Q5669	8260	280-111936-d-4
36 Sample	44	Q5670	8260	280-111936-b-6
37 Sample	45	Q5671	8260	280-111936-b-7
38 Sample	46	Q5672	8260	280-111936-b-8
39 Sample	47	Q5673	8260	280-111936-e-9
40 Sample	48	Q5674	8260	280-111936-c-11
41 Sample	49	Q5675	8260	280-111936-b-12
42 Sample	50	Q5676	8260	280-111936-b-13
43 Sample	51	Q5677	8260	280-111936-c-14



Line Type	Vial	DataFile	Method	Sample Name
-----------	------	----------	--------	-------------

44 Sample	1	Q5678	8260	280-111944-a-2
45 Sample	2	Q5679	8260	280-111944-b-3
46 Sample	3	Q5680	8260	280-111944-a-4
47 Sample	4	Q5681	8260	280-111944-b-5
48 Sample	5	Q5682	8260	280-111944-a-6
49 Sample	6	Q5683	8260	280-111944-b-7
50 Sample	7	Q5684	8260	280-111944-b-8
51 Sample	8	Q5685	8260	PRIMER
52 Sample	9	Q5686	8260	PRIMER



TestAmerica Laboratories  
Worklist Report

Worklist Name: 071618

Worklist Number: 71996

Instrument Name: VMS\_Q

Chrom Method: AQ\_VMSQ\_8260

Purge Volume: 20.00

Units: mL

Analysis Type: VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180716-71996.b







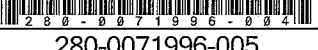

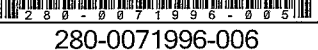
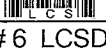
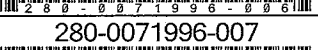

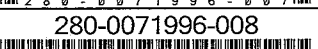
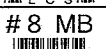












Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q

Run Reagent: MV-568718-D\_00008

































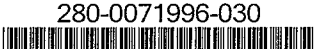

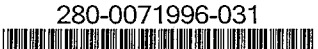

Amount Added: 1.000, Units: uL

Run Reagent: MV-ARCH SS A\_00098











Amount Added: 0.840, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071996-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00070	CCV	voaWater	20.00	mL	1.000
280-0071996-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071996-004 	# 4 CCV 	mv-Pentachlor_00010 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071996-005 	# 5 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCS	voaWater	20.00	mL	1.000
280-0071996-006 	# 6 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCSD	voaWater	20.00	mL	1.000
280-0071996-007 	# 7 LCS 	MV-Supp B_00020	LCS	voaWater	20.00	mL	1.000
280-0071996-008 	# 8 MB 		MB	voaWater	20.00	mL	1.000
280-0071996-009 	# 9 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071996-010 	#10 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071996-011 	#11 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071996-012 	#12 ICV 	MV-Main B_00020 MV-568718-D_00008	ICV	voaWater	20.00	mL	1.000
280-0071996-013 	#13 280-111186-A-31 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-014 	#14 280-111186-B-32 		Client	voaWater	20.00	mL	1.000
280-0071996-015 	#15 280-111186-D-33 		Client	voaWater	20.00	mL	1.000
280-0071996-016 	#16 280-111186-C-34 		Client	voaWater	20.00	mL	1.000
280-0071996-017 	#17 280-111186-D-35 		Client	voaWater	20.00	mL	1.000
280-0071996-018 	#18 280-111186-B-36 		Client	voaWater	20.00	mL	1.000
280-0071996-019 	#19 280-111655-D-2 		Client	voaWater	20.00	mL	1.000
280-0071996-020 	#20 280-111655-D-2 		Client	voaWater	20.00	mL	4.000
280-0071996-021 	#21 280-111655-B-2 MS 	MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043 MV-Main B_00020	MS	voaWater	20.00	mL	1.000
280-0071996-022 	#22 280-111655-B-2 MSD 	MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043 MV-Main B_00020	MSD	voaWater	20.00	mL	1.000
280-0071996-023 	#23 280-111655-C-3 		Client	voaWater	20.00	mL	2.000
280-0071996-024 	#24 280-111655-C-3 		Client	voaWater	20.00	mL	20.00
280-0071996-025 	#25 280-111655-E-4 		Client	voaWater	20.00	mL	2.000
280-0071996-026 	#26 280-111655-E-4 		Client	voaWater	20.00	mL	20.00
280-0071996-027 	#27 280-111655-C-5 		Client	voaWater	20.00	mL	1.000
280-0071996-028 	#28 280-111655-D-6 		Client	voaWater	20.00	mL	1.000
280-0071996-029 	#29 280-111847-G-1 		Client	voaWater	20.00	mL	1.000
280-0071996-030 	#30 280-111847-C-2 		Client	voaWater	20.00	mL	1.000
280-0071996-031 	#31 280-111847-A-3 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-032 	#32 280-111850-B-1 		Client	voaWater	20.00	mL	1.000
280-0071996-033 	#33 280-111850-H-2 		Client	voaWater	20.00	mL	1.000
280-0071996-034 	#34 280-111850-H-3 		Client	voaWater	20.00	mL	1.000
280-0071996-035 	#35 280-111850-H-4 		Client	voaWater	20.00	mL	1.000
280-0071996-036 	#36 Samp 36 		Client	voaWater	20.00	mL	1.000



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 419732 Batch Start Date: 06/23/18 11:37 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00010	MV-ARCH SS A 00099	MV-BFB 00026	MV-Supp A 00029
BFB 280-419732/1		8260B		1 uL	1 uL			1 uL	
STD010 280-419732/20 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD020 280-419732/21 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD050 280-419732/22 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-419732/23		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD30 280-419732/24 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD60 280-419732/25 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-419732/26		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-419732/1		8260B							
STD010 280-419732/20 IC		8260B							
STD020 280-419732/21 IC		8260B							
STD050 280-419732/22 IC		8260B							
ICIS 280-419732/23		8260B							
STD30 280-419732/24 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 419732 Batch Start Date: 06/23/18 11:37 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
STD60 280-419732/25 IC		8260B							
ICV 280-419732/26		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 419807 Batch Start Date: 06/25/18 08:50 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026	MV-Supp A 00029
BFB 280-419807/1		8260B		1 uL	1 uL			1 uL	
STD010 280-419807/19 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD020 280-419807/20 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD050 280-419807/21 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-419807/22		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD30 280-419807/23 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD60 280-419807/24 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-419807/25		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-419807/1		8260B							
STD010 280-419807/19 IC		8260B							
STD020 280-419807/20 IC		8260B							
STD050 280-419807/21 IC		8260B							
ICIS 280-419807/22		8260B							
STD30 280-419807/23 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 419807 Batch Start Date: 06/25/18 08:50 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
STD60 280-419807/24 IC		8260B							
ICV 280-419807/25		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422015 Batch Start Date: 07/12/18 13:44 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-422015/1		8260B		1 uL	1 uL				1 uL
STD003 280-422015/12 IC		8260B		20 mL	20 mL	0.15 uL	1 uL	0.024 uL	
STD010 280-422015/13 IC		8260B		20 mL	20 mL	0.5 uL	1 uL	0.08 uL	
STD020 280-422015/14 IC		8260B		20 mL	20 mL	1 uL	1 uL	0.16 uL	
STD050 280-422015/15 IC		8260B		20 mL	20 mL	2.5 uL	1 uL	0.4 uL	
STD10 280-422015/16 IC		8260B		20 mL	20 mL	5 uL	1 uL	0.8 uL	
STD30 280-422015/17 IC		8260B		20 mL	20 mL	15 uL	1 uL	2.4 uL	
STD60 280-422015/18 IC		8260B		20 mL	20 mL	30 uL	1 uL	4.8 uL	
ICV 280-422015/19		8260B		20 mL	20 mL		1 uL	0.84 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00070	MV-Gas/Ket B 00043	MV-Main A 00037	MV-SS 2-Cleve 00043		
BFB 280-422015/1		8260B							
STD003 280-422015/12 IC		8260B		0.15 uL		0.15 uL			
STD010 280-422015/13 IC		8260B		0.5 uL		0.5 uL			
STD020 280-422015/14 IC		8260B		1 uL		1 uL			
STD050 280-422015/15 IC		8260B		2.5 uL		2.5 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422015 Batch Start Date: 07/12/18 13:44 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00070	MV-Gas/Ket B 00043	MV-Main A 00037	MV-SS 2-Cleve 00043		
STD10 280-422015/16 IC		8260B		5 uL		5 uL			
STD30 280-422015/17 IC		8260B		15 uL		15 uL			
STD60 280-422015/18 IC		8260B		30 uL		30 uL			
ICV 280-422015/19		8260B			5 uL		5 uL		

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422281 Batch Start Date: 07/16/18 08:55 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-BFB 00026	MV-Main B 00020	
BFB 280-422281/1		8260B		1 uL	1 uL		1 uL		
ICV 280-422281/12		8260B		20 mL	20 mL	1 uL		5 uL	

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422639 Batch Start Date: 07/18/18 08:52 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-422639/1		8260B		1 uL	1 uL				1 uL
CCV 280-422639/2		8260B		20 mL	20 mL	5 uL	1 uL		
CCV 280-422639/3		8260B		20 mL	20 mL		1 uL	0.8 uL	
LCS 280-422639/6		8260B		20 mL	20 mL		1 uL	0.8 uL	
MB 280-422639/8		8260B		20 mL	20 mL		1 uL	0.8 uL	
CCV 280-422639/12		8260B		20 mL	20 mL		1 uL		
280-111985-E-4 MS	MW-08DMS	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-111985-E-4 MSD	MW-08DMSD	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-111864-B-1	AFDV-228	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-111864-C-2	AFDV-229	8260B	T	20 mL	20 mL		1 uL	0.8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00070	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00020	MV-SS 2-Cleve 00043	MV-Supp A 00031
BFB 280-422639/1		8260B							
CCV 280-422639/2		8260B				5 uL			
CCV 280-422639/3		8260B							5 uL
LCS 280-422639/6		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-422639/8		8260B							
CCV 280-422639/12		8260B		5 uL					
280-111985-E-4 MS	MW-08DMS	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-111985-E-4 MSD	MW-08DMSD	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-111864-B-1	AFDV-228	8260B	T						
280-111864-C-2	AFDV-229	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422639 Batch Start Date: 07/18/18 08:52 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422809 Batch Start Date: 07/19/18 08:56 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00010	MV-ARCH SS A 00098	MV-ARCH SS A 00100
BFB 280-422809/1		8260B		1 uL	1 uL				
CCV 280-422809/3		8260B		20 mL	20 mL		1 uL		
LCS 280-422809/4		8260B		20 mL	20 mL		1 uL	0.8 uL	
MB 280-422809/8		8260B		20 mL	20 mL		1 uL	0.8 uL	
STD003 280-422809/57 IC		8260B		20 mL	20 mL	0.15 uL	1 uL		0.024 uL
STD010 280-422809/58 IC		8260B		20 mL	20 mL	0.5 uL	1 uL		0.08 uL
STD020 280-422809/59 IC		8260B		20 mL	20 mL	1 uL	1 uL		0.16 uL
STD050 280-422809/60 IC		8260B		20 mL	20 mL	2.5 uL	1 uL		0.4 uL
ICIS 280-422809/61		8260B		20 mL	20 mL	5 uL	1 uL		0.8 uL
STD30 280-422809/62 IC		8260B		20 mL	20 mL	15 uL	1 uL		2.4 uL
STD60 280-422809/63 IC		8260B		20 mL	20 mL	30 uL	1 uL		4.8 uL
ICV 280-422809/64		8260B		20 mL	20 mL		1 uL		0.8 uL
280-111864-B-1	AFDV-228	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-111864-C-2	AFDV-229	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-111749-E-1 MS		8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-111749-E-1 MSD		8260B	T	20 mL	20 mL		1 uL	0.8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-BFB 00026	MV-Gas/Ket A 00075	MV-Gas/Ket B 00044	MV-Main A 00037	MV-Main B 00020	MV-SS 2-Cleve 00043
BFB 280-422809/1		8260B		1 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 3



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422809 Batch Start Date: 07/19/18 08:56 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-BFB 00026	MV-Gas/Ket A 00075	MV-Gas/Ket B 00044	MV-Main A 00037	MV-Main B 00020	MV-SS 2-Cleve 00043
CCV 280-422809/3		8260B							
LCS 280-422809/4		8260B				2.5 uL		2.5 uL	2.5 uL
MB 280-422809/8		8260B							
STD003 280-422809/57 IC		8260B			0.15 uL		0.15 uL		
STD010 280-422809/58 IC		8260B			0.5 uL		0.5 uL		
STD020 280-422809/59 IC		8260B			1 uL		1 uL		
STD050 280-422809/60 IC		8260B			2.5 uL		2.5 uL		
ICIS 280-422809/61		8260B			5 uL		5 uL		
STD30 280-422809/62 IC		8260B			15 uL		15 uL		
STD60 280-422809/63 IC		8260B			30 uL		30 uL		
ICV 280-422809/64		8260B				5 uL		5 uL	5 uL
280-111864-B-1	AFDV-228	8260B	T						
280-111864-C-2	AFDV-229	8260B	T						
280-111749-E-1 MS		8260B	T			2.5 uL		2.5 uL	2.5 uL
280-111749-E-1 MSD		8260B	T			2.5 uL		2.5 uL	2.5 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp A 00031					
BFB 280-422809/1		8260B							
CCV 280-422809/3		8260B		5 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 3



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111864-1

SDG No.: \_\_\_\_\_

Batch Number: 422809 Batch Start Date: 07/19/18 08:56 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp A 00031					
LCS 280-422809/4		8260B							
MB 280-422809/8		8260B							
STD003 280-422809/57 IC		8260B							
STD010 280-422809/58 IC		8260B							
STD020 280-422809/59 IC		8260B							
STD050 280-422809/60 IC		8260B							
ICIS 280-422809/61		8260B							
STD30 280-422809/62 IC		8260B							
STD60 280-422809/63 IC		8260B							
ICV 280-422809/64		8260B							
280-111864-B-1	AFDV-228	8260B	T						
280-111864-C-2	AFDV-229	8260B	T						
280-111749-E-1 MS		8260B	T						
280-111749-E-1 MSD		8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.




# Shipping and Receiving Documents



# GROUNDWATER

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b>		Sampler: <u>Kaitlin Ma</u>		Lab PM: <u>Jamie Ide, 303-736-0126</u>		Carrier Tracking No(s):		COC No:							
Client Contact: <u>Ms. Shannon Olson</u>		Phone: <u>917 273 8482</u>		E-Mail: <u>jamie.ide@testamericainc.com</u>				Page: Page <u>1</u> of <u>1</u>							
Company: <u>CH2M Hill, Inc.</u>				<b>Analysis Requested</b>						Job #:					
Address: <u>2020 SW 4th Ave, Suite 300</u>				Due Date Requested:		<div>Field Filtered Sample (Yes or No)</div> <div>Perform MS/MSD (Yes or No)</div> <div>8260B - VOCs</div> <div>9080 - TOC</div> <div>300.0 - Nitrate</div> <div>300.0 - Chloride</div> <div>300.0 - Sulfate</div> <div>2320B - Alkalinity</div> <div>SM4500 - S<sub>2</sub> - F - Sulfide</div> <div>RSK-175 - Dissolved Gases (MEE)</div> <div>3500 - Fe, E - Ferrous Iron</div> <div>Total Number of containers</div>						Preservation Codes:			
City: <u>Portland</u>		TAT Requested (days): <u>21</u>		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO <sub>4</sub> F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA								M - Hexane N - None O - AsNaO <sub>2</sub> P - Na <sub>2</sub> O <sub>4</sub> S Q - Na <sub>2</sub> SO <sub>3</sub> R - Na <sub>2</sub> S <sub>2</sub> SO <sub>3</sub> S - H <sub>2</sub> SO <sub>4</sub> T - TSP Dodecahydrate U - Acetone V - MCAA W - ph 4-5 Z - other (specify)			
State, Zip: <u>OR, 97201</u>		PO #: <u>See lab SOW</u>													
Phone: <u>503-736-4111</u>		WO #: <u>see lab SOW</u>													
Email: <u>shannon.olson@ch2m.com</u>		Project #: <u>28013442</u>													
Project Name: <u>THAN Davenport, IA - GW</u>				SSOW#:											
Site: <u>Than-Davenport</u>															
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		Preservation Code:		Special Instructions/Note:			
<u>AFDV-228</u>		<u>7/10/18</u>		<u>1555</u>		<u>G</u>		<u>W</u>		<u></u>		<u>3</u> Shortolds: Ferrous Iron, Nitrate (NO <sub>3</sub> -N)			
<u>AFDV-229</u>		<u>7/10/18</u>		<u>1600</u>		<u>G</u>		<u>W</u>		<u></u>		<u>3</u> (AFDV-229)			
<div> 280-111864 Chain of Custody</div>															
<b>Possible Hazard Identification</b> <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Radiological															
<b>Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month )</b> <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months															
Deliverable Requested: I, II, III, IV, Other (specify)															
Special Instructions/QC Requirements:															
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:							
Relinquished by: <u>Kaitlin Ma / CH2M (Jacobs)</u>				Date/Time: <u>7/11/18 @ 1630</u>		Company:		Received by: <u>Reed Pa</u>				Date/Time: <u>7-12-18 0855</u>		Company: <u>TA-DEM</u>	
Relinquished by:				Date/Time:		Company:		Received by:				Date/Time:		Company:	
Relinquished by:				Date/Time:		Company:		Received by:				Date/Time:		Company:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.: <u>263500</u>													
Cooler Temperature(s) °C and Other Remarks: <u>2-7 INH 8 C-0 Transfer RP 7-12-18</u>															



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-111864-1

**Login Number: 111864**  
**List Number: 1**  
**Creator: Pottruff, Reed W**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ ( $1/4''$ ).	False	Headspace larger than $1/4''$ in one or more vials, one vial with accpt. headspace
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Job Number: 280-111956-1

Job Description: THAN Davenport, IA - Soil

For:

CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201

Attention: Ms. Shannon Olson



Approved for release.  
Jamie N Ide  
Project Manager I  
7/31/2018 4:12 PM

---

Jamie N Ide, Project Manager I  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0126  
jamie.ide@testamericainc.com  
07/31/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	4
Definitions . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	8
Default Detection Limits . . . . .	14
Surrogate Summary . . . . .	15
QC Sample Results . . . . .	16
QC Association . . . . .	25
Chronicle . . . . .	27
Certification Summary . . . . .	29
Method Summary . . . . .	30
Sample Summary . . . . .	31
Manual Integration Summary . . . . .	32
Reagent Traceability . . . . .	43
Organic Sample Data . . . . .	52
GC/MS VOA . . . . .	52
Method 8260B . . . . .	52
Method 8260B QC Summary . . . . .	53
Method 8260B Sample Data . . . . .	83
Standards Data . . . . .	93
Method 8260B ICAL Data . . . . .	93
Method 8260B CCAL Data . . . . .	139
Raw QC Data . . . . .	170
Method 8260B Blank Data . . . . .	170



# Table of Contents

Method 8260B LCS/LCSD Data .....	173
Method 8260B MS/MSD Data .....	177
Method 8260B Run Logs .....	183
Method 8260B Prep Data .....	250
Inorganic Sample Data .....	263
General Chemistry Data .....	263
Gen Chem Cover Page .....	264
Gen Chem MDL .....	265
Gen Chem Analysis Run Log .....	266
Gen Chem Prep Data .....	268
Shipping and Receiving Documents .....	269
Client Chain of Custody .....	270
Sample Receipt Checklist .....	271



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



**CASE NARRATIVE**  
**Client: CH2M Hill, Inc.**  
**Project: THAN Davenport, IA - Soil**  
**Report Number: 280-111956-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 7/13/2018 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7° C.

1 of 2 HCl preserved VOA Vials requesting 8260B VOCs analysis for sample AFDV-232 (280-111956-1) was received with a headspace bubble >6mm in diameter. Sufficient volume remains for analysis without headspace unless instructed otherwise by the client. The client was notified on 7/13/18.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples AFDV-209 (280-111956-3), AFDV-210 (280-111956-4), AFDV-211 (280-111956-5), AFDV-212 (280-111956-6) and AFDV-213 (280-111956-7) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were prepared on 07/12/2018 and analyzed on 07/24/2018.

Internal standard (ISTD) response for TBA-d9 for the following sample in preparation batch 280-423341 and analytical batch 280-423345 was outside acceptance criteria: AFDV-213 (280-111956-7). This ISTD does not correspond to any of the requested target compounds; therefore, the data have been reported

Several analytes failed the recovery criteria low for the MS/MSD of sample AFDV-212 (280-111956-6) in batch 280-423345. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples AFDV-232 (280-111956-1), AFDV-230 (280-111956-2), AFDV-223 (280-111956-8) and AFDV-224 (280-111956-9) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 07/21/2018 and 07/24/2018.

Acetone and Methylene Chloride failed the recovery criteria low for the MS/MSD of sample 280-112045-1 in batch 280-423349. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

Samples AFDV-230 (280-111956-2)[10X] and AFDV-230 (280-111956-2)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

**PERCENT SOLIDS**

Samples AFDV-209 (280-111956-3), AFDV-210 (280-111956-4), AFDV-211 (280-111956-5), AFDV-212 (280-111956-6) and AFDV-213 (280-111956-7) were analyzed for percent solids in accordance with ASTM D2216-90. The samples were analyzed on 07/16/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Client Sample ID: AFDV-232

## Lab Sample ID: 280-111956-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.3	J	10	1.9	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-230

## Lab Sample ID: 280-111956-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	120		2.0	0.44	ug/L	2		8260B	Total/NA
1,1-Dichloroethene	7.8		2.0	0.46	ug/L	2		8260B	Total/NA
1,2-Dichloroethane	0.63	J	2.0	0.26	ug/L	2		8260B	Total/NA
cis-1,2-Dichloroethene	310	E	2.0	0.30	ug/L	2		8260B	Total/NA
trans-1,2-Dichloroethene	0.81	J	2.0	0.30	ug/L	2		8260B	Total/NA
Vinyl chloride	120	E	2.0	0.20	ug/L	2		8260B	Total/NA
cis-1,2-Dichloroethene - DL	170		10	1.5	ug/L	10		8260B	Total/NA
Vinyl chloride - DL	70		10	1.0	ug/L	10		8260B	Total/NA

## Client Sample ID: AFDV-209

## Lab Sample ID: 280-111956-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	100		19	5.1	ug/Kg	1		8260B	Total/NA
Methyl ethyl ketone (MEK)	21		19	1.7	ug/Kg	1		8260B	Total/NA
1,1-Dichloroethane	6.6		4.7	0.20	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	12		2.4	0.53	ug/Kg	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.2		2.4	0.37	ug/Kg	1		8260B	Total/NA
Tetrachloroethene	0.71	J	4.7	0.56	ug/Kg	1		8260B	Total/NA
Trichloroethene	0.61	J	4.7	0.22	ug/Kg	1		8260B	Total/NA

## Client Sample ID: AFDV-210

## Lab Sample ID: 280-111956-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	53		17	4.6	ug/Kg	1		8260B	Total/NA
Methyl ethyl ketone (MEK)	10	J	17	1.6	ug/Kg	1		8260B	Total/NA
1,1-Dichloroethane	0.52	J	4.3	0.18	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.6	J	2.1	0.48	ug/Kg	1		8260B	Total/NA
Vinyl chloride	3.8	J	4.3	1.1	ug/Kg	1		8260B	Total/NA

## Client Sample ID: AFDV-211

## Lab Sample ID: 280-111956-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	55		15	4.0	ug/Kg	1		8260B	Total/NA
Methyl ethyl ketone (MEK)	8.5	J	15	1.4	ug/Kg	1		8260B	Total/NA
1,1-Dichloroethane	0.77	J	3.7	0.16	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	2.3		1.9	0.42	ug/Kg	1		8260B	Total/NA
Vinyl chloride	6.8		3.7	1.0	ug/Kg	1		8260B	Total/NA

## Client Sample ID: AFDV-212

## Lab Sample ID: 280-111956-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	130	F1	17	4.5	ug/Kg	1		8260B	Total/NA
Methyl ethyl ketone (MEK)	21		17	1.5	ug/Kg	1		8260B	Total/NA
1,1-Dichloroethane	4.0	J	4.2	0.18	ug/Kg	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.82	J	2.1	0.33	ug/Kg	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Client Sample ID: AFDV-212 (Continued)

## Lab Sample ID: 280-111956-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.67	J F1	4.2	0.58	ug/Kg	1		8260B	Total/NA
m-Xylene & p-Xylene	1.5	J F1	2.1	0.87	ug/Kg	1		8260B	Total/NA
Xylenes, Total	1.5	J F1	4.2	0.51	ug/Kg	1		8260B	Total/NA

## Client Sample ID: AFDV-213

## Lab Sample ID: 280-111956-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	47		14	3.8	ug/Kg	1		8260B	Total/NA
Methyl ethyl ketone (MEK)	8.3	J	14	1.3	ug/Kg	1		8260B	Total/NA
1,1-Dichloroethane	1.6	J	3.6	0.15	ug/Kg	1		8260B	Total/NA
cis-1,2-Dichloroethene	30		1.8	0.40	ug/Kg	1		8260B	Total/NA
Trichloroethene	1.8	J	3.6	0.16	ug/Kg	1		8260B	Total/NA
Vinyl chloride	11		3.6	0.95	ug/Kg	1		8260B	Total/NA

## Client Sample ID: AFDV-223

## Lab Sample ID: 280-111956-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.4	J	10	1.9	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-224

## Lab Sample ID: 280-111956-9

No Detections.



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

**Client Sample ID: AFDV-232**

**Date Collected: 07/12/18 07:00**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/21/18 10:57	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/21/18 10:57	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/21/18 10:57	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/21/18 10:57	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/21/18 10:57	1
Acetone	6.3	J	10	1.9	ug/L			07/21/18 10:57	1
Benzene	ND		1.0	0.16	ug/L			07/21/18 10:57	1
Chloroethane	ND		2.0	0.41	ug/L			07/21/18 10:57	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/21/18 10:57	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/21/18 10:57	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/21/18 10:57	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/21/18 10:57	1
o-Xylene	ND		1.0	0.19	ug/L			07/21/18 10:57	1
Styrene	ND		1.0	0.17	ug/L			07/21/18 10:57	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/21/18 10:57	1
Toluene	ND		1.0	0.17	ug/L			07/21/18 10:57	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/21/18 10:57	1
Trichloroethene	ND		1.0	0.16	ug/L			07/21/18 10:57	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/21/18 10:57	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/21/18 10:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		07/21/18 10:57	1
4-Bromofluorobenzene (Surr)	107		78 - 120		07/21/18 10:57	1
Dibromofluoromethane (Surr)	100		77 - 120		07/21/18 10:57	1
Toluene-d8 (Surr)	106		80 - 125		07/21/18 10:57	1

**Client Sample ID: AFDV-230**

**Date Collected: 07/12/18 11:40**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2.0	0.32	ug/L			07/21/18 11:18	2
1,1-Dichloroethane	120		2.0	0.44	ug/L			07/21/18 11:18	2
1,1-Dichloroethene	7.8		2.0	0.46	ug/L			07/21/18 11:18	2
1,2-Dichloroethane	0.63	J	2.0	0.26	ug/L			07/21/18 11:18	2
Methyl ethyl ketone (MEK)	ND		12	4.0	ug/L			07/21/18 11:18	2
Acetone	ND		20	3.8	ug/L			07/21/18 11:18	2
Benzene	ND		2.0	0.32	ug/L			07/21/18 11:18	2
Chloroethane	ND		4.0	0.82	ug/L			07/21/18 11:18	2
cis-1,2-Dichloroethene	310	E	2.0	0.30	ug/L			07/21/18 11:18	2
Ethylbenzene	ND		2.0	0.32	ug/L			07/21/18 11:18	2
Methylene Chloride	ND		4.0	0.64	ug/L			07/21/18 11:18	2
m-Xylene & p-Xylene	ND		4.0	0.68	ug/L			07/21/18 11:18	2
o-Xylene	ND		2.0	0.38	ug/L			07/21/18 11:18	2
Styrene	ND		2.0	0.34	ug/L			07/21/18 11:18	2
Tetrachloroethene	ND		2.0	0.40	ug/L			07/21/18 11:18	2
Toluene	ND		2.0	0.34	ug/L			07/21/18 11:18	2
trans-1,2-Dichloroethene	0.81	J	2.0	0.30	ug/L			07/21/18 11:18	2

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

**Client Sample ID: AFDV-230**

**Date Collected: 07/12/18 11:40**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		2.0	0.32	ug/L			07/21/18 11:18	2
<b>Vinyl chloride</b>	<b>120</b>	<b>E</b>	2.0	0.20	ug/L			07/21/18 11:18	2
Xylenes, Total	ND		4.0	0.38	ug/L			07/21/18 11:18	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 127		07/21/18 11:18	2
4-Bromofluorobenzene (Surr)	107		78 - 120		07/21/18 11:18	2
Dibromofluoromethane (Surr)	103		77 - 120		07/21/18 11:18	2
Toluene-d8 (Surr)	108		80 - 125		07/21/18 11:18	2

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>cis-1,2-Dichloroethene</b>	<b>170</b>		10	1.5	ug/L			07/21/18 11:39	10
<b>Vinyl chloride</b>	<b>70</b>		10	1.0	ug/L			07/21/18 11:39	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 127		07/21/18 11:39	10
4-Bromofluorobenzene (Surr)	107		78 - 120		07/21/18 11:39	10
Dibromofluoromethane (Surr)	104		77 - 120		07/21/18 11:39	10
Toluene-d8 (Surr)	106		80 - 125		07/21/18 11:39	10

**Client Sample ID: AFDV-209**

**Date Collected: 07/12/18 07:30**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-3**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>100</b>		19	5.1	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Benzene	ND		4.7	0.44	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
<b>Methyl ethyl ketone (MEK)</b>	<b>21</b>		19	1.7	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Chloroethane	ND		9.4	0.84	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
<b>1,1-Dichloroethane</b>	<b>6.6</b>		4.7	0.20	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
1,2-Dichloroethane	ND		4.7	0.66	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
<b>cis-1,2-Dichloroethene</b>	<b>12</b>		2.4	0.53	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
<b>trans-1,2-Dichloroethene</b>	<b>3.2</b>		2.4	0.37	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
1,1-Dichloroethene	ND		4.7	0.56	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Ethylbenzene	ND		4.7	0.63	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Methylene Chloride	ND		4.7	1.5	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Styrene	ND		4.7	0.59	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
<b>Tetrachloroethene</b>	<b>0.71</b>	<b>J</b>	4.7	0.56	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Toluene	ND		4.7	0.65	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
1,1,1-Trichloroethane	ND		4.7	0.49	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
<b>Trichloroethene</b>	<b>0.61</b>	<b>J</b>	4.7	0.22	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Vinyl chloride	ND		4.7	1.3	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
m-Xylene & p-Xylene	ND		2.4	0.98	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
o-Xylene	ND		2.4	0.58	ug/Kg		07/12/18 07:30	07/24/18 00:32	1
Xylenes, Total	ND		4.7	0.58	ug/Kg		07/12/18 07:30	07/24/18 00:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		58 - 140	07/12/18 07:30	07/24/18 00:32	1
Toluene-d8 (Surr)	101		80 - 126	07/12/18 07:30	07/24/18 00:32	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

**Client Sample ID: AFDV-209**

**Date Collected: 07/12/18 07:30**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-3**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		76 - 127	07/12/18 07:30	07/24/18 00:32	1
Dibromofluoromethane (Surr)	92		75 - 121	07/12/18 07:30	07/24/18 00:32	1

**Client Sample ID: AFDV-210**

**Date Collected: 07/12/18 07:35**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-4**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	53		17	4.6	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Benzene	ND		4.3	0.40	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Methyl ethyl ketone (MEK)	10	J	17	1.6	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Chloroethane	ND		8.6	0.76	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
1,1-Dichloroethane	0.52	J	4.3	0.18	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
1,2-Dichloroethane	ND		4.3	0.60	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
cis-1,2-Dichloroethene	1.6	J	2.1	0.48	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
trans-1,2-Dichloroethene	ND		2.1	0.33	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
1,1-Dichloroethene	ND		4.3	0.51	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Ethylbenzene	ND		4.3	0.57	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Methylene Chloride	ND		4.3	1.4	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Styrene	ND		4.3	0.54	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Tetrachloroethene	ND		4.3	0.51	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Toluene	ND		4.3	0.59	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
1,1,1-Trichloroethane	ND		4.3	0.45	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Trichloroethene	ND		4.3	0.20	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Vinyl chloride	3.8	J	4.3	1.1	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
m-Xylene & p-Xylene	ND		2.1	0.89	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
o-Xylene	ND		2.1	0.52	ug/Kg		07/12/18 07:35	07/24/18 00:53	1
Xylenes, Total	ND		4.3	0.52	ug/Kg		07/12/18 07:35	07/24/18 00:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		58 - 140	07/12/18 07:35	07/24/18 00:53	1
Toluene-d8 (Surr)	95		80 - 126	07/12/18 07:35	07/24/18 00:53	1
4-Bromofluorobenzene (Surr)	88		76 - 127	07/12/18 07:35	07/24/18 00:53	1
Dibromofluoromethane (Surr)	88		75 - 121	07/12/18 07:35	07/24/18 00:53	1

**Client Sample ID: AFDV-211**

**Date Collected: 07/12/18 07:40**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-5**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	55		15	4.0	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Benzene	ND		3.7	0.35	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Methyl ethyl ketone (MEK)	8.5	J	15	1.4	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Chloroethane	ND		7.5	0.66	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
1,1-Dichloroethane	0.77	J	3.7	0.16	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
1,2-Dichloroethane	ND		3.7	0.52	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
cis-1,2-Dichloroethene	2.3		1.9	0.42	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
trans-1,2-Dichloroethene	ND		1.9	0.29	ug/Kg		07/12/18 07:40	07/24/18 01:13	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

**Client Sample ID: AFDV-211**

**Date Collected: 07/12/18 07:40**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-5**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		3.7	0.44	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Ethylbenzene	ND		3.7	0.50	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Methylene Chloride	ND		3.7	1.2	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Styrene	ND		3.7	0.47	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Tetrachloroethene	ND		3.7	0.44	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Toluene	ND		3.7	0.51	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
1,1,1-Trichloroethane	ND		3.7	0.39	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Trichloroethene	ND		3.7	0.17	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
<b>Vinyl chloride</b>	<b>6.8</b>		3.7	1.0	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
m-Xylene & p-Xylene	ND		1.9	0.78	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
o-Xylene	ND		1.9	0.45	ug/Kg		07/12/18 07:40	07/24/18 01:13	1
Xylenes, Total	ND		3.7	0.45	ug/Kg		07/12/18 07:40	07/24/18 01:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		58 - 140	07/12/18 07:40	07/24/18 01:13	1
Toluene-d8 (Surr)	99		80 - 126	07/12/18 07:40	07/24/18 01:13	1
4-Bromofluorobenzene (Surr)	93		76 - 127	07/12/18 07:40	07/24/18 01:13	1
Dibromofluoromethane (Surr)	94		75 - 121	07/12/18 07:40	07/24/18 01:13	1

**Client Sample ID: AFDV-212**

**Date Collected: 07/12/18 07:05**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-6**

**Matrix: Solid**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>130</b>	<b>F1</b>	17	4.5	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Benzene	ND		4.2	0.39	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
<b>Methyl ethyl ketone (MEK)</b>	<b>21</b>		17	1.5	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Chloroethane	ND		8.3	0.74	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
<b>1,1-Dichloroethane</b>	<b>4.0</b>	<b>J</b>	4.2	0.18	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
1,2-Dichloroethane	ND		4.2	0.58	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
cis-1,2-Dichloroethene	ND		2.1	0.47	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
<b>trans-1,2-Dichloroethene</b>	<b>0.82</b>	<b>J</b>	2.1	0.33	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
1,1-Dichloroethene	ND		4.2	0.49	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Ethylbenzene	ND	F1	4.2	0.56	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Methylene Chloride	ND		4.2	1.3	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Styrene	ND	F1	4.2	0.53	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Tetrachloroethene	ND	F1	4.2	0.49	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
<b>Toluene</b>	<b>0.67</b>	<b>J F1</b>	4.2	0.58	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
1,1,1-Trichloroethane	ND		4.2	0.43	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Trichloroethene	ND		4.2	0.19	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
Vinyl chloride	ND		4.2	1.1	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.5</b>	<b>J F1</b>	2.1	0.87	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
o-Xylene	ND	F1	2.1	0.51	ug/Kg		07/12/18 07:05	07/24/18 01:34	1
<b>Xylenes, Total</b>	<b>1.5</b>	<b>J F1</b>	4.2	0.51	ug/Kg		07/12/18 07:05	07/24/18 01:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		58 - 140	07/12/18 07:05	07/24/18 01:34	1
Toluene-d8 (Surr)	102		80 - 126	07/12/18 07:05	07/24/18 01:34	1
4-Bromofluorobenzene (Surr)	97		76 - 127	07/12/18 07:05	07/24/18 01:34	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

**Client Sample ID: AFDV-212**

**Date Collected: 07/12/18 07:05**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-6**

**Matrix: Solid**

**Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	93		75 - 121	07/12/18 07:05	07/24/18 01:34	1

**Client Sample ID: AFDV-213**

**Date Collected: 07/12/18 07:10**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-7**

**Matrix: Solid**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	47		14	3.8	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Benzene	ND		3.6	0.33	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Methyl ethyl ketone (MEK)	8.3	J	14	1.3	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Chloroethane	ND		7.1	0.63	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
1,1-Dichloroethane	1.6	J	3.6	0.15	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
1,2-Dichloroethane	ND		3.6	0.50	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
cis-1,2-Dichloroethene	30		1.8	0.40	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
trans-1,2-Dichloroethene	ND		1.8	0.28	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
1,1-Dichloroethene	ND		3.6	0.42	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Ethylbenzene	ND		3.6	0.48	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Methylene Chloride	ND		3.6	1.1	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Styrene	ND		3.6	0.45	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Tetrachloroethene	ND		3.6	0.42	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Toluene	ND		3.6	0.49	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
1,1,1-Trichloroethane	ND		3.6	0.37	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Trichloroethene	1.8	J	3.6	0.16	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Vinyl chloride	11		3.6	0.95	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
m-Xylene & p-Xylene	ND		1.8	0.74	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
o-Xylene	ND		1.8	0.43	ug/Kg		07/12/18 07:10	07/24/18 01:54	1
Xylenes, Total	ND		3.6	0.43	ug/Kg		07/12/18 07:10	07/24/18 01:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		58 - 140	07/12/18 07:10	07/24/18 01:54	1
Toluene-d8 (Surr)	95		80 - 126	07/12/18 07:10	07/24/18 01:54	1
4-Bromofluorobenzene (Surr)	89		76 - 127	07/12/18 07:10	07/24/18 01:54	1
Dibromofluoromethane (Surr)	93		75 - 121	07/12/18 07:10	07/24/18 01:54	1

**Client Sample ID: AFDV-223**

**Date Collected: 07/12/18 09:00**

**Date Received: 07/13/18 09:00**

**Lab Sample ID: 280-111956-8**

**Matrix: Water**

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/24/18 08:50	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/24/18 08:50	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/24/18 08:50	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/24/18 08:50	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/24/18 08:50	1
Acetone	3.4	J	10	1.9	ug/L			07/24/18 08:50	1
Benzene	ND		1.0	0.16	ug/L			07/24/18 08:50	1
Chloroethane	ND		2.0	0.41	ug/L			07/24/18 08:50	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/24/18 08:50	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

**Client Sample ID: AFDV-223**

**Lab Sample ID: 280-111956-8**

**Date Collected: 07/12/18 09:00**

**Matrix: Water**

**Date Received: 07/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.16	ug/L			07/24/18 08:50	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/24/18 08:50	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/24/18 08:50	1
o-Xylene	ND		1.0	0.19	ug/L			07/24/18 08:50	1
Styrene	ND		1.0	0.17	ug/L			07/24/18 08:50	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/24/18 08:50	1
Toluene	ND		1.0	0.17	ug/L			07/24/18 08:50	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/24/18 08:50	1
Trichloroethene	ND		1.0	0.16	ug/L			07/24/18 08:50	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/24/18 08:50	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/24/18 08:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		70 - 127		07/24/18 08:50	1
4-Bromofluorobenzene (Surr)	95		78 - 120		07/24/18 08:50	1
Dibromofluoromethane (Surr)	94		77 - 120		07/24/18 08:50	1
Toluene-d8 (Surr)	96		80 - 125		07/24/18 08:50	1

**Client Sample ID: AFDV-224**

**Lab Sample ID: 280-111956-9**

**Date Collected: 07/12/18 09:05**

**Matrix: Water**

**Date Received: 07/13/18 09:00**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/24/18 09:13	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/24/18 09:13	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/24/18 09:13	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/24/18 09:13	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/24/18 09:13	1
Acetone	ND		10	1.9	ug/L			07/24/18 09:13	1
Benzene	ND		1.0	0.16	ug/L			07/24/18 09:13	1
Chloroethane	ND		2.0	0.41	ug/L			07/24/18 09:13	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/24/18 09:13	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/24/18 09:13	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/24/18 09:13	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/24/18 09:13	1
o-Xylene	ND		1.0	0.19	ug/L			07/24/18 09:13	1
Styrene	ND		1.0	0.17	ug/L			07/24/18 09:13	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/24/18 09:13	1
Toluene	ND		1.0	0.17	ug/L			07/24/18 09:13	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/24/18 09:13	1
Trichloroethene	ND		1.0	0.16	ug/L			07/24/18 09:13	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/24/18 09:13	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/24/18 09:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		70 - 127		07/24/18 09:13	1
4-Bromofluorobenzene (Surr)	95		78 - 120		07/24/18 09:13	1
Dibromofluoromethane (Surr)	96		77 - 120		07/24/18 09:13	1
Toluene-d8 (Surr)	95		80 - 125		07/24/18 09:13	1

TestAmerica Denver



# Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	RL	MDL	Units	Method
1,1,1-Trichloroethane	1.0	0.16	ug/L	8260B
1,1-Dichloroethane	1.0	0.22	ug/L	8260B
1,1-Dichloroethene	1.0	0.23	ug/L	8260B
1,2-Dichloroethane	1.0	0.13	ug/L	8260B
Acetone	10	1.9	ug/L	8260B
Benzene	1.0	0.16	ug/L	8260B
Chloroethane	2.0	0.41	ug/L	8260B
cis-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Ethylbenzene	1.0	0.16	ug/L	8260B
Methyl ethyl ketone (MEK)	6.0	2.0	ug/L	8260B
Methylene Chloride	2.0	0.32	ug/L	8260B
m-Xylene & p-Xylene	2.0	0.34	ug/L	8260B
o-Xylene	1.0	0.19	ug/L	8260B
Styrene	1.0	0.17	ug/L	8260B
Tetrachloroethene	1.0	0.20	ug/L	8260B
Toluene	1.0	0.17	ug/L	8260B
trans-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Trichloroethene	1.0	0.16	ug/L	8260B
Vinyl chloride	1.0	0.10	ug/L	8260B
Xylenes, Total	2.0	0.19	ug/L	8260B

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Prep: 5035

Analyte	RL	MDL	Units	Method
1,1,1-Trichloroethane	5.0	0.52	ug/Kg	8260B
1,1-Dichloroethane	5.0	0.21	ug/Kg	8260B
1,1-Dichloroethene	5.0	0.59	ug/Kg	8260B
1,2-Dichloroethane	5.0	0.70	ug/Kg	8260B
Acetone	20	5.4	ug/Kg	8260B
Benzene	5.0	0.47	ug/Kg	8260B
Chloroethane	10	0.89	ug/Kg	8260B
cis-1,2-Dichloroethene	2.5	0.56	ug/Kg	8260B
Ethylbenzene	5.0	0.67	ug/Kg	8260B
Methyl ethyl ketone (MEK)	20	1.8	ug/Kg	8260B
Methylene Chloride	5.0	1.6	ug/Kg	8260B
m-Xylene & p-Xylene	2.5	1.0	ug/Kg	8260B
o-Xylene	2.5	0.61	ug/Kg	8260B
Styrene	5.0	0.63	ug/Kg	8260B
Tetrachloroethene	5.0	0.59	ug/Kg	8260B
Toluene	5.0	0.69	ug/Kg	8260B
trans-1,2-Dichloroethene	2.5	0.39	ug/Kg	8260B
Trichloroethene	5.0	0.23	ug/Kg	8260B
Vinyl chloride	5.0	1.3	ug/Kg	8260B
Xylenes, Total	5.0	0.61	ug/Kg	8260B



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (58-140)	TOL (80-126)	BFB (76-127)	DBFM (75-121)
280-111956-3	AFDV-209	95	101	101	92
280-111956-4	AFDV-210	94	95	88	88
280-111956-5	AFDV-211	104	99	93	94
280-111956-6	AFDV-212	97	102	97	93
280-111956-6 MS	AFDV-212	101	94	88	97
280-111956-6 MSD	AFDV-212	102	94	90	97
280-111956-7	AFDV-213	101	95	89	93
LCS 280-423341/1-A	Lab Control Sample	91	95	87	94
LCSD 280-423341/2-A	Lab Control Sample Dup	89	96	89	92
MB 280-423341/3-A	Method Blank	92	92	87	89

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
280-111956-1	AFDV-232	98	107	100	106
280-111956-2	AFDV-230	102	107	103	108
280-111956-2 - DL	AFDV-230	103	107	104	106
280-111956-8	AFDV-223	79	95	94	96
280-111956-9	AFDV-224	83	95	96	95
280-112000-B-2 MS	Matrix Spike	104	103	103	101
280-112000-B-2 MSD	Matrix Spike Duplicate	107	107	104	102
280-112045-D-1 MS	Matrix Spike	79	91	92	95
280-112045-D-1 MSD	Matrix Spike Duplicate	82	96	94	94
LCS 280-423129/4	Lab Control Sample	103	105	102	107
LCS 280-423349/4	Lab Control Sample	77	97	91	93
MB 280-423129/6	Method Blank	104	110	103	103
MB 280-423349/6	Method Blank	84	109	99	104

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-423129/6

Matrix: Water

Analysis Batch: 423129

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/21/18 10:10	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/21/18 10:10	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/21/18 10:10	1
Acetone	ND		10	1.9	ug/L			07/21/18 10:10	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/21/18 10:10	1
Benzene	ND		1.0	0.16	ug/L			07/21/18 10:10	1
Chloroethane	ND		2.0	0.41	ug/L			07/21/18 10:10	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/21/18 10:10	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/21/18 10:10	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/21/18 10:10	1
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/21/18 10:10	1
Styrene	ND		1.0	0.17	ug/L			07/21/18 10:10	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/21/18 10:10	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/21/18 10:10	1
o-Xylene	ND		1.0	0.19	ug/L			07/21/18 10:10	1
Toluene	ND		1.0	0.17	ug/L			07/21/18 10:10	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/21/18 10:10	1
Trichloroethene	ND		1.0	0.16	ug/L			07/21/18 10:10	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/21/18 10:10	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/21/18 10:10	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 127					07/21/18 10:10	1
Toluene-d8 (Surr)	103		80 - 125					07/21/18 10:10	1
4-Bromofluorobenzene (Surr)	110		78 - 120					07/21/18 10:10	1
Dibromofluoromethane (Surr)	103		77 - 120					07/21/18 10:10	1

Lab Sample ID: LCS 280-423129/4

Matrix: Water

Analysis Batch: 423129

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	5.00	5.06		ug/L		101	65 - 135
1,2-Dichloroethane	5.00	5.35		ug/L		107	65 - 135
Methyl ethyl ketone (MEK)	20.0	17.6		ug/L		88	44 - 177
Acetone	20.0	15.5		ug/L		77	39 - 156
1,1-Dichloroethene	5.00	4.82		ug/L		96	65 - 136
Benzene	5.00	4.88		ug/L		98	65 - 135
Chloroethane	5.00	4.87		ug/L		97	46 - 136
cis-1,2-Dichloroethene	5.00	4.90		ug/L		98	65 - 135
Ethylbenzene	5.00	4.99		ug/L		100	65 - 135
Methylene Chloride	5.00	5.24		ug/L		105	54 - 141
1,1,1-Trichloroethane	5.00	5.31		ug/L		106	65 - 135
Styrene	5.00	4.41		ug/L		88	65 - 135
m-Xylene & p-Xylene	5.00	5.14		ug/L		103	65 - 135
Tetrachloroethene	5.00	5.00		ug/L		100	65 - 135
o-Xylene	5.00	4.73		ug/L		95	65 - 135
Toluene	5.00	5.17		ug/L		103	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-423129/4

Matrix: Water

Analysis Batch: 423129

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	5.02		ug/L		100	65 - 135
Trichloroethene	5.00	4.88		ug/L		98	65 - 135
Vinyl chloride	5.00	3.83		ug/L		77	40 - 137
Xylenes, Total	10.0	9.87		ug/L		99	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 127
Toluene-d8 (Surr)	107		80 - 125
4-Bromofluorobenzene (Surr)	105		78 - 120
Dibromofluoromethane (Surr)	102		77 - 120

Lab Sample ID: 280-112000-B-2 MS

Matrix: Water

Analysis Batch: 423129

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		5.00	4.96		ug/L		99	65 - 135
1,2-Dichloroethane	ND		5.00	5.18		ug/L		104	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	18.1		ug/L		91	44 - 177
Acetone	3.2	J	20.0	20.4		ug/L		86	39 - 156
1,1-Dichloroethene	ND		5.00	4.59		ug/L		92	65 - 136
Benzene	ND		5.00	4.87		ug/L		97	65 - 135
Chloroethane	ND		5.00	5.36		ug/L		107	46 - 136
cis-1,2-Dichloroethene	ND		5.00	4.77		ug/L		95	65 - 135
Ethylbenzene	ND		5.00	4.56		ug/L		91	65 - 135
Methylene Chloride	ND		5.00	4.99		ug/L		100	54 - 141
1,1,1-Trichloroethane	ND		5.00	5.22		ug/L		104	65 - 135
Styrene	ND		5.00	4.18		ug/L		84	65 - 135
m-Xylene & p-Xylene	ND		5.00	4.92		ug/L		98	65 - 135
Tetrachloroethene	ND		5.00	4.61		ug/L		92	65 - 135
o-Xylene	ND		5.00	4.45		ug/L		89	65 - 135
Toluene	ND		5.00	5.21		ug/L		104	65 - 135
trans-1,2-Dichloroethene	ND		5.00	4.79		ug/L		96	65 - 135
Trichloroethene	ND		5.00	4.75		ug/L		95	65 - 135
Vinyl chloride	ND		5.00	4.23		ug/L		85	40 - 137
Xylenes, Total	ND		10.0	9.37		ug/L		94	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 127
Toluene-d8 (Surr)	101		80 - 125
4-Bromofluorobenzene (Surr)	103		78 - 120
Dibromofluoromethane (Surr)	103		77 - 120



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-112000-B-2 MSD

Matrix: Water

Analysis Batch: 423129

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	ND		5.00	4.98		ug/L		100	65 - 135	0	21
1,2-Dichloroethane	ND		5.00	5.22		ug/L		104	65 - 135	1	20
Methyl ethyl ketone (MEK)	ND		20.0	19.6		ug/L		98	44 - 177	8	32
Acetone	3.2	J	20.0	20.4		ug/L		86	39 - 156	0	23
1,1-Dichloroethene	ND		5.00	4.59		ug/L		92	65 - 136	0	20
Benzene	ND		5.00	4.82		ug/L		96	65 - 135	1	20
Chloroethane	ND		5.00	5.51		ug/L		110	46 - 136	3	25
cis-1,2-Dichloroethene	ND		5.00	4.84		ug/L		97	65 - 135	2	20
Ethylbenzene	ND		5.00	4.47		ug/L		89	65 - 135	2	20
Methylene Chloride	ND		5.00	5.13		ug/L		103	54 - 141	3	26
1,1,1-Trichloroethane	ND		5.00	5.17		ug/L		103	65 - 135	1	20
Styrene	ND		5.00	4.09		ug/L		82	65 - 135	2	26
m-Xylene & p-Xylene	ND		5.00	4.77		ug/L		95	65 - 135	3	20
Tetrachloroethene	ND		5.00	4.39		ug/L		88	65 - 135	5	20
o-Xylene	ND		5.00	4.46		ug/L		89	65 - 135	0	20
Toluene	ND		5.00	5.10		ug/L		102	65 - 135	2	20
trans-1,2-Dichloroethene	ND		5.00	4.72		ug/L		94	65 - 135	1	24
Trichloroethene	ND		5.00	4.50		ug/L		90	65 - 135	5	20
Vinyl chloride	ND		5.00	4.39		ug/L		88	40 - 137	4	24
Xylenes, Total	ND		10.0	9.23		ug/L		92	65 - 135	2	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	107		70 - 127								
Toluene-d8 (Surr)	102		80 - 125								
4-Bromofluorobenzene (Surr)	107		78 - 120								
Dibromofluoromethane (Surr)	104		77 - 120								

Lab Sample ID: MB 280-423341/3-A

Matrix: Solid

Analysis Batch: 423345

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423341

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		5.0	0.21	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
1,2-Dichloroethane	ND		5.0	0.70	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Methyl ethyl ketone (MEK)	ND		20	1.8	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Acetone	ND		20	5.4	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
1,1-Dichloroethene	ND		5.0	0.59	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Benzene	ND		5.0	0.47	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Chloroethane	ND		10	0.89	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
cis-1,2-Dichloroethene	ND		2.5	0.56	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Ethylbenzene	ND		5.0	0.67	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Methylene Chloride	ND		5.0	1.6	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
1,1,1-Trichloroethane	ND		5.0	0.52	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Styrene	ND		5.0	0.63	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
m-Xylene & p-Xylene	ND		2.5	1.0	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Tetrachloroethene	ND		5.0	0.59	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
o-Xylene	ND		2.5	0.61	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Toluene	ND		5.0	0.69	ug/Kg		07/23/18 22:00	07/23/18 23:31	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-423341/3-A

Matrix: Solid

Analysis Batch: 423345

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423341

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		2.5	0.39	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Trichloroethene	ND		5.0	0.23	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Vinyl chloride	ND		5.0	1.3	ug/Kg		07/23/18 22:00	07/23/18 23:31	1
Xylenes, Total	ND		5.0	0.61	ug/Kg		07/23/18 22:00	07/23/18 23:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		58 - 140	07/23/18 22:00	07/23/18 23:31	1
Toluene-d8 (Surr)	92		80 - 126	07/23/18 22:00	07/23/18 23:31	1
4-Bromofluorobenzene (Surr)	87		76 - 127	07/23/18 22:00	07/23/18 23:31	1
Dibromofluoromethane (Surr)	89		75 - 121	07/23/18 22:00	07/23/18 23:31	1

Lab Sample ID: LCS 280-423341/1-A

Matrix: Solid

Analysis Batch: 423345

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423341

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethane	50.0	51.8		ug/Kg		104	70 - 135
1,2-Dichloroethane	50.0	52.4		ug/Kg		105	69 - 135
Methyl ethyl ketone (MEK)	200	180		ug/Kg		90	45 - 177
Acetone	200	216		ug/Kg		108	65 - 150
1,1-Dichloroethene	50.0	50.0		ug/Kg		100	79 - 135
Benzene	50.0	48.8		ug/Kg		98	75 - 135
Chloroethane	50.0	54.4		ug/Kg		109	51 - 145
cis-1,2-Dichloroethene	50.0	50.3		ug/Kg		101	76 - 135
Ethylbenzene	50.0	47.8		ug/Kg		96	73 - 125
Methylene Chloride	50.0	51.8		ug/Kg		104	76 - 136
1,1,1-Trichloroethane	50.0	52.3		ug/Kg		105	70 - 135
Styrene	50.0	49.4		ug/Kg		99	76 - 135
m-Xylene & p-Xylene	50.0	45.9		ug/Kg		92	77 - 135
Tetrachloroethene	50.0	46.6		ug/Kg		93	76 - 135
o-Xylene	50.0	48.5		ug/Kg		97	75 - 135
Toluene	50.0	48.5		ug/Kg		97	77 - 122
trans-1,2-Dichloroethene	50.0	52.6		ug/Kg		105	77 - 135
Trichloroethene	50.0	49.8		ug/Kg		100	77 - 135
Vinyl chloride	50.0	47.4		ug/Kg		95	43 - 145
Xylenes, Total	100	94.4		ug/Kg		94	76 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		58 - 140
Toluene-d8 (Surr)	95		80 - 126
4-Bromofluorobenzene (Surr)	87		76 - 127
Dibromofluoromethane (Surr)	94		75 - 121

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-423341/2-A

Matrix: Solid

Analysis Batch: 423345

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423341

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	50.0	50.0		ug/Kg		100	70 - 135	4	20
1,2-Dichloroethane	50.0	52.3		ug/Kg		105	69 - 135	0	20
Methyl ethyl ketone (MEK)	200	182		ug/Kg		91	45 - 177	1	32
Acetone	200	215		ug/Kg		108	65 - 150	0	28
1,1-Dichloroethene	50.0	47.4		ug/Kg		95	79 - 135	5	20
Benzene	50.0	47.2		ug/Kg		94	75 - 135	3	20
Chloroethane	50.0	51.3		ug/Kg		103	51 - 145	6	22
cis-1,2-Dichloroethene	50.0	49.1		ug/Kg		98	76 - 135	2	20
Ethylbenzene	50.0	46.9		ug/Kg		94	73 - 125	2	20
Methylene Chloride	50.0	50.7		ug/Kg		101	76 - 136	2	21
1,1,1-Trichloroethane	50.0	49.7		ug/Kg		99	70 - 135	5	20
Styrene	50.0	49.4		ug/Kg		99	76 - 135	0	20
m-Xylene & p-Xylene	50.0	45.4		ug/Kg		91	77 - 135	1	20
Tetrachloroethene	50.0	45.5		ug/Kg		91	76 - 135	3	20
o-Xylene	50.0	48.2		ug/Kg		96	75 - 135	1	20
Toluene	50.0	46.6		ug/Kg		93	77 - 122	4	20
trans-1,2-Dichloroethene	50.0	50.2		ug/Kg		100	77 - 135	5	20
Trichloroethene	50.0	47.8		ug/Kg		96	77 - 135	4	20
Vinyl chloride	50.0	44.6		ug/Kg		89	43 - 145	6	24
Xylenes, Total	100	93.6		ug/Kg		94	76 - 135	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		58 - 140
Toluene-d8 (Surr)	96		80 - 126
4-Bromofluorobenzene (Surr)	89		76 - 127
Dibromofluoromethane (Surr)	92		75 - 121

Lab Sample ID: 280-111956-6 MS

Matrix: Solid

Analysis Batch: 423345

Client Sample ID: AFDV-212

Prep Type: Total/NA

Prep Batch: 423341

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	130	F1	165	202	F1	ug/Kg		46	65 - 150
Benzene	ND		41.2	32.7		ug/Kg		79	75 - 135
Methyl ethyl ketone (MEK)	21		165	181		ug/Kg		98	45 - 177
Chloroethane	ND		41.2	37.3		ug/Kg		91	51 - 145
1,1-Dichloroethane	4.0	J	41.2	43.4		ug/Kg		96	70 - 135
1,2-Dichloroethane	ND		41.2	37.0		ug/Kg		90	69 - 135
cis-1,2-Dichloroethene	ND		41.2	33.3		ug/Kg		81	76 - 135
trans-1,2-Dichloroethene	0.82	J	41.2	35.2		ug/Kg		83	77 - 135
1,1-Dichloroethene	ND		41.2	34.4		ug/Kg		84	79 - 135
Ethylbenzene	ND	F1	41.2	29.1	F1	ug/Kg		71	73 - 125
Methylene Chloride	ND		41.2	35.6		ug/Kg		87	76 - 136
Styrene	ND	F1	41.2	24.4	F1	ug/Kg		59	76 - 135
Tetrachloroethene	ND	F1	41.2	29.4	F1	ug/Kg		71	76 - 135
Toluene	0.67	J F1	41.2	30.9	F1	ug/Kg		73	77 - 122
1,1,1-Trichloroethane	ND		41.2	35.6		ug/Kg		87	70 - 135
Trichloroethene	ND		41.2	32.0		ug/Kg		78	77 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-111956-6 MS

Matrix: Solid

Analysis Batch: 423345

Client Sample ID: AFDV-212

Prep Type: Total/NA

Prep Batch: 423341

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	ND		41.2	35.0		ug/Kg		85	43 - 145
m-Xylene & p-Xylene	1.5	J F1	41.2	27.9	F1	ug/Kg		64	77 - 135
o-Xylene	ND	F1	41.2	29.5	F1	ug/Kg		72	75 - 135
Xylenes, Total	1.5	J F1	82.4	57.4	F1	ug/Kg		68	76 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		58 - 140
Toluene-d8 (Surr)	94		80 - 126
4-Bromofluorobenzene (Surr)	88		76 - 127
Dibromofluoromethane (Surr)	97		75 - 121

Lab Sample ID: 280-111956-6 MSD

Matrix: Solid

Analysis Batch: 423345

Client Sample ID: AFDV-212

Prep Type: Total/NA

Prep Batch: 423341

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acetone	130	F1	155	183	F1	ug/Kg		36	65 - 150	10	28
Benzene	ND		38.8	30.8		ug/Kg		79	75 - 135	6	20
Methyl ethyl ketone (MEK)	21		155	177		ug/Kg		101	45 - 177	3	32
Chloroethane	ND		38.8	33.0		ug/Kg		85	51 - 145	12	22
1,1-Dichloroethane	4.0	J	38.8	41.3		ug/Kg		96	70 - 135	5	20
1,2-Dichloroethane	ND		38.8	34.7		ug/Kg		89	69 - 135	6	20
cis-1,2-Dichloroethene	ND		38.8	31.7		ug/Kg		82	76 - 135	5	20
trans-1,2-Dichloroethene	0.82	J	38.8	33.5		ug/Kg		84	77 - 135	5	20
1,1-Dichloroethene	ND		38.8	32.6		ug/Kg		84	79 - 135	5	20
Ethylbenzene	ND	F1	38.8	27.2	F1	ug/Kg		70	73 - 125	7	20
Methylene Chloride	ND		38.8	33.4		ug/Kg		86	76 - 136	7	21
Styrene	ND	F1	38.8	22.2	F1	ug/Kg		57	76 - 135	10	20
Tetrachloroethene	ND	F1	38.8	27.4	F1	ug/Kg		71	76 - 135	7	20
Toluene	0.67	J F1	38.8	29.0	F1	ug/Kg		73	77 - 122	6	20
1,1,1-Trichloroethane	ND		38.8	33.3		ug/Kg		86	70 - 135	7	20
Trichloroethene	ND		38.8	29.7		ug/Kg		77	77 - 135	7	20
Vinyl chloride	ND		38.8	31.5		ug/Kg		81	43 - 145	11	24
m-Xylene & p-Xylene	1.5	J F1	38.8	26.0	F1	ug/Kg		63	77 - 135	7	20
o-Xylene	ND	F1	38.8	27.0	F1	ug/Kg		70	75 - 135	9	20
Xylenes, Total	1.5	J F1	77.6	53.0	F1	ug/Kg		66	76 - 135	8	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		58 - 140
Toluene-d8 (Surr)	94		80 - 126
4-Bromofluorobenzene (Surr)	90		76 - 127
Dibromofluoromethane (Surr)	97		75 - 121

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-423349/6

Matrix: Water

Analysis Batch: 423349

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0	0.22	ug/L			07/24/18 07:39	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			07/24/18 07:39	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			07/24/18 07:39	1
Acetone	ND		10	1.9	ug/L			07/24/18 07:39	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			07/24/18 07:39	1
Benzene	ND		1.0	0.16	ug/L			07/24/18 07:39	1
Chloroethane	ND		2.0	0.41	ug/L			07/24/18 07:39	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/24/18 07:39	1
Ethylbenzene	ND		1.0	0.16	ug/L			07/24/18 07:39	1
Methylene Chloride	ND		2.0	0.32	ug/L			07/24/18 07:39	1
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			07/24/18 07:39	1
Styrene	ND		1.0	0.17	ug/L			07/24/18 07:39	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			07/24/18 07:39	1
Tetrachloroethene	ND		1.0	0.20	ug/L			07/24/18 07:39	1
o-Xylene	ND		1.0	0.19	ug/L			07/24/18 07:39	1
Toluene	ND		1.0	0.17	ug/L			07/24/18 07:39	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			07/24/18 07:39	1
Trichloroethene	ND		1.0	0.16	ug/L			07/24/18 07:39	1
Vinyl chloride	ND		1.0	0.10	ug/L			07/24/18 07:39	1
Xylenes, Total	ND		2.0	0.19	ug/L			07/24/18 07:39	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 127					07/24/18 07:39	1
Toluene-d8 (Surr)	104		80 - 125					07/24/18 07:39	1
4-Bromofluorobenzene (Surr)	109		78 - 120					07/24/18 07:39	1
Dibromofluoromethane (Surr)	99		77 - 120					07/24/18 07:39	1

Lab Sample ID: LCS 280-423349/4

Matrix: Water

Analysis Batch: 423349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	5.00	4.04		ug/L		81	65 - 135
1,2-Dichloroethane	5.00	3.81		ug/L		76	65 - 135
Methyl ethyl ketone (MEK)	20.0	13.2		ug/L		66	44 - 177
Acetone	20.0	13.4		ug/L		67	39 - 156
1,1-Dichloroethene	5.00	4.07		ug/L		81	65 - 136
Benzene	5.00	4.30		ug/L		86	65 - 135
Chloroethane	5.00	3.19		ug/L		64	46 - 136
cis-1,2-Dichloroethene	5.00	4.44		ug/L		89	65 - 135
Ethylbenzene	5.00	4.81		ug/L		96	65 - 135
Methylene Chloride	5.00	3.62		ug/L		72	54 - 141
1,1,1-Trichloroethane	5.00	4.17		ug/L		83	65 - 135
Styrene	5.00	4.63		ug/L		93	65 - 135
m-Xylene & p-Xylene	5.00	4.79		ug/L		96	65 - 135
Tetrachloroethene	5.00	5.24		ug/L		105	65 - 135
o-Xylene	5.00	5.08		ug/L		102	65 - 135
Toluene	5.00	4.39		ug/L		88	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-423349/4

Matrix: Water

Analysis Batch: 423349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	4.49		ug/L		90	65 - 135
Trichloroethene	5.00	4.40		ug/L		88	65 - 135
Vinyl chloride	5.00	3.18		ug/L		64	40 - 137
Xylenes, Total	10.0	9.87		ug/L		99	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	77		70 - 127
Toluene-d8 (Surr)	93		80 - 125
4-Bromofluorobenzene (Surr)	97		78 - 120
Dibromofluoromethane (Surr)	91		77 - 120

Lab Sample ID: 280-112045-D-1 MS

Matrix: Water

Analysis Batch: 423349

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		5.00	4.31		ug/L		86	65 - 135
1,2-Dichloroethane	ND		5.00	4.23		ug/L		85	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	13.2		ug/L		66	44 - 177
Acetone	8.4	J F1	20.0	15.2	F1	ug/L		34	39 - 156
1,1-Dichloroethene	ND		5.00	4.51		ug/L		90	65 - 136
Benzene	ND		5.00	4.67		ug/L		93	65 - 135
Chloroethane	ND		5.00	3.09		ug/L		62	46 - 136
cis-1,2-Dichloroethene	ND		5.00	4.56		ug/L		91	65 - 135
Ethylbenzene	ND		5.00	4.92		ug/L		98	65 - 135
Methylene Chloride	33		5.00	34.5	4	ug/L		32	54 - 141
1,1,1-Trichloroethane	ND		5.00	5.03		ug/L		101	65 - 135
Styrene	ND		5.00	4.79		ug/L		96	65 - 135
m-Xylene & p-Xylene	ND		5.00	4.83		ug/L		97	65 - 135
Tetrachloroethene	ND		5.00	5.24		ug/L		105	65 - 135
o-Xylene	ND		5.00	5.31		ug/L		106	65 - 135
Toluene	ND		5.00	4.96		ug/L		99	65 - 135
trans-1,2-Dichloroethene	ND		5.00	4.78		ug/L		96	65 - 135
Trichloroethene	ND		5.00	4.54		ug/L		91	65 - 135
Vinyl chloride	ND		5.00	3.09		ug/L		62	40 - 137
Xylenes, Total	ND		10.0	10.1		ug/L		101	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		70 - 127
Toluene-d8 (Surr)	95		80 - 125
4-Bromofluorobenzene (Surr)	91		78 - 120
Dibromofluoromethane (Surr)	92		77 - 120



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-112045-D-1 MSD

Matrix: Water

Analysis Batch: 423349

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	ND		5.00	4.24		ug/L		85	65 - 135	2	21
1,2-Dichloroethane	ND		5.00	4.17		ug/L		83	65 - 135	2	20
Methyl ethyl ketone (MEK)	ND		20.0	12.7		ug/L		63	44 - 177	4	32
Acetone	8.4	J F1	20.0	15.6	F1	ug/L		36	39 - 156	3	23
1,1-Dichloroethene	ND		5.00	4.73		ug/L		95	65 - 136	5	20
Benzene	ND		5.00	4.67		ug/L		93	65 - 135	0	20
Chloroethane	ND		5.00	3.26		ug/L		65	46 - 136	6	25
cis-1,2-Dichloroethene	ND		5.00	4.71		ug/L		94	65 - 135	3	20
Ethylbenzene	ND		5.00	5.15		ug/L		103	65 - 135	5	20
Methylene Chloride	33		5.00	35.1	4	ug/L		43	54 - 141	2	26
1,1,1-Trichloroethane	ND		5.00	4.98		ug/L		100	65 - 135	1	20
Styrene	ND		5.00	4.87		ug/L		97	65 - 135	2	26
m-Xylene & p-Xylene	ND		5.00	5.03		ug/L		101	65 - 135	4	20
Tetrachloroethene	ND		5.00	5.25		ug/L		105	65 - 135	0	20
o-Xylene	ND		5.00	5.39		ug/L		108	65 - 135	1	20
Toluene	ND		5.00	4.94		ug/L		99	65 - 135	0	20
trans-1,2-Dichloroethene	ND		5.00	4.96		ug/L		99	65 - 135	4	24
Trichloroethene	ND		5.00	4.57		ug/L		91	65 - 135	1	20
Vinyl chloride	ND		5.00	3.17		ug/L		63	40 - 137	3	24
Xylenes, Total	ND		10.0	10.4		ug/L		104	65 - 135	3	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	82		70 - 127								
Toluene-d8 (Surr)	94		80 - 125								
4-Bromofluorobenzene (Surr)	96		78 - 120								
Dibromofluoromethane (Surr)	94		77 - 120								



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## GC/MS VOA

### Analysis Batch: 423129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111956-1	AFDV-232	Total/NA	Water	8260B	
280-111956-2	AFDV-230	Total/NA	Water	8260B	
280-111956-2 - DL	AFDV-230	Total/NA	Water	8260B	
MB 280-423129/6	Method Blank	Total/NA	Water	8260B	
LCS 280-423129/4	Lab Control Sample	Total/NA	Water	8260B	
280-112000-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
280-112000-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

### Prep Batch: 423341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111956-3	AFDV-209	Total/NA	Solid	5035	
280-111956-4	AFDV-210	Total/NA	Solid	5035	
280-111956-5	AFDV-211	Total/NA	Solid	5035	
280-111956-6	AFDV-212	Total/NA	Solid	5035	
280-111956-7	AFDV-213	Total/NA	Solid	5035	
MB 280-423341/3-A	Method Blank	Total/NA	Solid	5035	
LCS 280-423341/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 280-423341/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
280-111956-6 MS	AFDV-212	Total/NA	Solid	5035	
280-111956-6 MSD	AFDV-212	Total/NA	Solid	5035	

### Analysis Batch: 423345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111956-3	AFDV-209	Total/NA	Solid	8260B	423341
280-111956-4	AFDV-210	Total/NA	Solid	8260B	423341
280-111956-5	AFDV-211	Total/NA	Solid	8260B	423341
280-111956-6	AFDV-212	Total/NA	Solid	8260B	423341
280-111956-7	AFDV-213	Total/NA	Solid	8260B	423341
MB 280-423341/3-A	Method Blank	Total/NA	Solid	8260B	423341
LCS 280-423341/1-A	Lab Control Sample	Total/NA	Solid	8260B	423341
LCSD 280-423341/2-A	Lab Control Sample Dup	Total/NA	Solid	8260B	423341
280-111956-6 MS	AFDV-212	Total/NA	Solid	8260B	423341
280-111956-6 MSD	AFDV-212	Total/NA	Solid	8260B	423341

### Analysis Batch: 423349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111956-8	AFDV-223	Total/NA	Water	8260B	
280-111956-9	AFDV-224	Total/NA	Water	8260B	
MB 280-423349/6	Method Blank	Total/NA	Water	8260B	
LCS 280-423349/4	Lab Control Sample	Total/NA	Water	8260B	
280-112045-D-1 MS	Matrix Spike	Total/NA	Water	8260B	
280-112045-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## General Chemistry

### Analysis Batch: 422293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111956-3	AFDV-209	Total/NA	Solid	Moisture	
280-111956-4	AFDV-210	Total/NA	Solid	Moisture	
280-111956-5	AFDV-211	Total/NA	Solid	Moisture	

TestAmerica Denver



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## General Chemistry (Continued)

### Analysis Batch: 422293 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-111956-6	AFDV-212	Total/NA	Solid	Moisture	
280-111956-7	AFDV-213	Total/NA	Solid	Moisture	
280-111905-A-8 DU	Duplicate	Total/NA	Solid	Moisture	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Client Sample ID: AFDV-232

Date Collected: 07/12/18 07:00

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	423129	07/21/18 10:57	DPI	TAL DEN

## Client Sample ID: AFDV-230

Date Collected: 07/12/18 11:40

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	20 mL	20 mL	423129	07/21/18 11:18	DPI	TAL DEN
Total/NA	Analysis	8260B	DL	10	20 mL	20 mL	423129	07/21/18 11:39	DPI	TAL DEN

## Client Sample ID: AFDV-209

Date Collected: 07/12/18 07:30

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.299 g	5 mL	423341	07/12/18 07:30	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	423345	07/24/18 00:32	RSN	TAL DEN
Total/NA	Analysis	Moisture		1			422293	07/16/18 11:23	HMS	TAL DEN

## Client Sample ID: AFDV-210

Date Collected: 07/12/18 07:35

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.831 g	5 mL	423341	07/12/18 07:35	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	423345	07/24/18 00:53	RSN	TAL DEN
Total/NA	Analysis	Moisture		1			422293	07/16/18 11:23	HMS	TAL DEN

## Client Sample ID: AFDV-211

Date Collected: 07/12/18 07:40

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.705 g	5 mL	423341	07/12/18 07:40	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	423345	07/24/18 01:13	RSN	TAL DEN
Total/NA	Analysis	Moisture		1			422293	07/16/18 11:23	HMS	TAL DEN



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Client Sample ID: AFDV-212

Date Collected: 07/12/18 07:05

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.997 g	5 mL	423341	07/12/18 07:05	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	423345	07/24/18 01:34	RSN	TAL DEN
Total/NA	Analysis	Moisture		1			422293	07/16/18 11:23	HMS	TAL DEN

## Client Sample ID: AFDV-213

Date Collected: 07/12/18 07:10

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.032 g	5 mL	423341	07/12/18 07:10	RSN	TAL DEN
Total/NA	Analysis	8260B		1	5 g	5 mL	423345	07/24/18 01:54	RSN	TAL DEN
Total/NA	Analysis	Moisture		1			422293	07/16/18 11:23	HMS	TAL DEN

## Client Sample ID: AFDV-223

Date Collected: 07/12/18 09:00

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	423349	07/24/18 08:50	MD	TAL DEN

## Client Sample ID: AFDV-224

Date Collected: 07/12/18 09:05

Date Received: 07/13/18 09:00

## Lab Sample ID: 280-111956-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	423349	07/24/18 09:13	MD	TAL DEN

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

## Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E87667	06-30-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture

Iowa	State Program	7	370	12-01-18
------	---------------	---	-----	----------

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
8260B	5035	Solid	Methylene Chloride
8260B	5035	Solid	m-Xylene & p-Xylene
8260B	5035	Solid	o-Xylene

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,2-Dichloroethane
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Chloroethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	Ethylbenzene
8260B		Water	Methyl ethyl ketone (MEK)
8260B		Water	Methylene Chloride
8260B		Water	m-Xylene & p-Xylene
8260B		Water	o-Xylene
8260B		Water	Styrene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	Trichloroethene
8260B		Water	Vinyl chloride
8260B		Water	Xylenes, Total
Moisture		Solid	Percent Moisture

Oregon	NELAP	10	4025	01-08-19
--------	-------	----	------	----------

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture



## Method Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN
5035	Closed System Purge and Trap	SW846	TAL DEN

### Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Sample Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Soil

TestAmerica Job ID: 280-111956-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-111956-1	AFDV-232	Water	07/12/18 07:00	07/13/18 09:00
280-111956-2	AFDV-230	Water	07/12/18 11:40	07/13/18 09:00
280-111956-3	AFDV-209	Solid	07/12/18 07:30	07/13/18 09:00
280-111956-4	AFDV-210	Solid	07/12/18 07:35	07/13/18 09:00
280-111956-5	AFDV-211	Solid	07/12/18 07:40	07/13/18 09:00
280-111956-6	AFDV-212	Solid	07/12/18 07:05	07/13/18 09:00
280-111956-7	AFDV-213	Solid	07/12/18 07:10	07/13/18 09:00
280-111956-8	AFDV-223	Water	07/12/18 09:00	07/13/18 09:00
280-111956-9	AFDV-224	Water	07/12/18 09:05	07/13/18 09:00



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 Analysis Batch Number: 422928Lab Sample ID: STD01 280-422928/12 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 19:45 Lab File ID: G2\_5567.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane	7.03	Assign Peak	newcomer	07/20/18 21:17
2,2-Dichloropropane		Invalid Compound ID	newcomer	07/20/18 21:17
Acrylonitrile		Invalid Compound ID	newcomer	07/20/18 21:17
Vinyl acetate		Invalid Compound ID	newcomer	07/20/18 21:17

Lab Sample ID: STD02 280-422928/13 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 20:05 Lab File ID: G2\_5568.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	6.14	Split Peak	newcomer	07/20/18 21:21
n-Heptane	7.35	Assign Peak	newcomer	07/20/18 21:21
2,2-Dichloropropane		Invalid Compound ID	newcomer	07/20/18 21:20

Lab Sample ID: STD05 280-422928/14 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 20:26 Lab File ID: G2\_5569.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,2-Dichloropropane	5.74	Split Peak	newcomer	07/20/18 21:24

Lab Sample ID: STD100 280-422928/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 21:48 Lab File ID: G2\_5573.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,2-Dichloropropane	5.74	Split Peak	newcomer	07/21/18 02:34



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 Analysis Batch Number: 422928Lab Sample ID: STD01 280-422928/21 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 23:30 Lab File ID: G2\_5578.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetonitrile		Invalid Compound ID	newcomer	07/23/18 18:13
Propionitrile		Invalid Compound ID	newcomer	07/23/18 18:13

Lab Sample ID: STD02 280-422928/22 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/19/18 23:50 Lab File ID: G2\_5579.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
n-Butanol		Invalid Compound ID	newcomer	07/23/18 18:14

Lab Sample ID: STD05 280-422928/23 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/20/18 00:11 Lab File ID: G2\_5580.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	2.68	Split Peak	newcomer	07/23/18 18:19

Lab Sample ID: STD10 280-422928/24 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/20/18 00:31 Lab File ID: G2\_5581.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	2.67	Split Peak	newcomer	07/23/18 18:18

Lab Sample ID: STD20 280-422928/25 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/20/18 00:51 Lab File ID: G2\_5582.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	2.67	Split Peak	newcomer	07/23/18 18:18



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 Analysis Batch Number: 422928Lab Sample ID: ICIS 280-422928/26 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/20/18 01:12 Lab File ID: G2\_5583.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	2.65	Split Peak	newcomer	07/23/18 18:18

Lab Sample ID: STD100 280-422928/27 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/20/18 01:32 Lab File ID: G2\_5584.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	2.65	Split Peak	newcomer	07/23/18 18:17

Lab Sample ID: ICV 280-422928/29 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/20/18 02:13 Lab File ID: G2\_5586.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	2.65	Split Peak	newcomer	07/23/18 18:21



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 Analysis Batch Number: 423345Lab Sample ID: MB 280-423341/3-A Client Sample ID: \_\_\_\_\_Date Analyzed: 07/23/18 23:31 Lab File ID: G2\_5703.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone		Invalid Compound ID	newcomer	07/24/18 00:40
Toluene		Invalid Compound ID	newcomer	07/24/18 00:39

Lab Sample ID: 280-111956-3 Client Sample ID: AFDV-209Date Analyzed: 07/24/18 00:32 Lab File ID: G2\_5706.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene		Invalid Compound ID	newcomer	07/24/18 17:49

Lab Sample ID: 280-111956-4 Client Sample ID: AFDV-210Date Analyzed: 07/24/18 00:53 Lab File ID: G2\_5707.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene		Invalid Compound ID	newcomer	07/24/18 17:50

Lab Sample ID: 280-111956-5 Client Sample ID: AFDV-211Date Analyzed: 07/24/18 01:13 Lab File ID: G2\_5708.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene		Invalid Compound ID	newcomer	07/24/18 17:50

Lab Sample ID: 280-111956-6 Client Sample ID: AFDV-212Date Analyzed: 07/24/18 01:34 Lab File ID: G2\_5709.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene		Invalid Compound ID	newcomer	07/24/18 17:52
cis-1,2-Dichloroethene		Invalid Compound ID	newcomer	07/24/18 17:52



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 Analysis Batch Number: 423345Lab Sample ID: 280-111956-7 Client Sample ID: AFDV-213Date Analyzed: 07/24/18 01:54 Lab File ID: G2\_5710.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzene		Invalid Compound ID	newcomer	07/24/18 17:57



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Analysis Batch Number: 421403Lab Sample ID: STD03 280-421403/10 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 16:27 Lab File ID: MS9\_2368.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol		Invalid Compound ID	linesj	07/09/18 17:46

Lab Sample ID: ICV 280-421403/17 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 16:48 Lab File ID: MS9\_2369.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
sec-Butyl Alcohol	6.51	Wrong peak	linesj	07/08/18 17:36

Lab Sample ID: STD2 280-421403/25 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 18:32 Lab File ID: MS9\_2374.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.93	Assign Peak	linesj	07/09/18 18:37

Lab Sample ID: STD1 280-421403/24 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/08/18 18:53 Lab File ID: MS9\_2375.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Propanol		Invalid Compound ID	linesj	07/09/18 18:36
Ethanol		Invalid Compound ID	linesj	07/09/18 18:36



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 419807Lab Sample ID: STD010 280-419807/19 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 12:56 Lab File ID: Q5010.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propionitrile	7.04	Split Peak	seifertj	06/26/18 15:05

Lab Sample ID: STD020 280-419807/20 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 13:19 Lab File ID: Q5011.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Propionitrile	6.97	Split Peak	seifertj	06/26/18 15:01

Lab Sample ID: ICV 280-419807/25 Client Sample ID: \_\_\_\_\_Date Analyzed: 06/25/18 15:59 Lab File ID: Q5018.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetonitrile		Invalid Compound ID	seifertj	06/26/18 14:40
n-Butanol		Invalid Compound ID	ilczyszyn d	06/26/18 08:08



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 422015Lab Sample ID: STD003 280-422015/12 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 13:55 Lab File ID: Q5624.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acrolein		Invalid Compound ID	seifertj	07/16/18 07:26
Acrylonitrile		Invalid Compound ID	seifertj	07/16/18 07:26
Carbon disulfide		Invalid Compound ID	seifertj	07/16/18 07:26
Dichlorofluoromethane		Invalid Compound ID	seifertj	07/16/18 07:25
Isobutyl alcohol		Invalid Compound ID	seifertj	07/16/18 07:26
sec-Butyl Alcohol		Invalid Compound ID	seifertj	07/16/18 07:26

Lab Sample ID: STD010 280-422015/13 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 14:17 Lab File ID: Q5625.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.91	Split Peak	seifertj	07/16/18 07:27
sec-Butyl Alcohol	6.93	Wrong peak	seifertj	07/16/18 07:28
Isobutyl alcohol		Invalid Compound ID	seifertj	07/16/18 07:28

Lab Sample ID: STD020 280-422015/14 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 14:39 Lab File ID: Q5626.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.91	Split Peak	seifertj	07/16/18 07:29

Lab Sample ID: STD050 280-422015/15 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 15:02 Lab File ID: Q5627.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.91	Split Peak	seifertj	07/16/18 07:30



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 422015Lab Sample ID: STD10 280-422015/16 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 15:41 Lab File ID: Q5628.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 07:31

Lab Sample ID: STD30 280-422015/17 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 16:03 Lab File ID: Q5629.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 07:31

Lab Sample ID: STD60 280-422015/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 07/12/18 16:26 Lab File ID: Q5630.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 07:32
m-Xylene & p-Xylene	10.16	Wrong peak	seifertj	07/16/18 07:33



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 422281Lab Sample ID: ICV 280-422281/12 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/16/18 09:45 Lab File ID: Q5637.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.90	Split Peak	seifertj	07/16/18 10:19



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Analysis Batch Number: 423349Lab Sample ID: CCV 280-423349/2 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/24/18 06:39 Lab File ID: Q5921.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Carbon disulfide	5.99	Split Peak	dobransky m	07/24/18 06:59



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>MV-2c1eve+AVA_00036</b>	08/31/18	06/01/18	P&T Methanol, Lot 177891	10 mL	MV-568720_00021	202.5 uL	Acrolein	399.938 ug/mL
					MV-569723_00003	160 uL	2-Chloroethyl vinyl ether	40 ug/mL
					MV-569724_00015	160 uL	Vinyl acetate	80 ug/mL
.MV-568720_00021	08/31/18		RESTEK, Lot A0135693		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569723_00003	01/31/20		RESTEK, Lot A0123891		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00015	08/31/18		RESTEK, Lot A0135506		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
<b>MV-568718-D_00003</b>	01/31/19		RESTEK, Lot A0100746		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-568718-D_00008</b>	03/31/21		RESTEK, Lot A0118105		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-568718-D_00014</b>	05/31/22		RESTEK, Lot A0127975		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-ARCH SS A_00098</b>	12/13/18	06/13/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00099</b>	12/13/18	06/22/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00100</b>	12/13/18	07/12/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
							1,2-Dichloroethane-d4 (Surr)	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>MV-BFB_00026</b>							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
					MV-ST5110N1_00066	1.25 mL	Xylenes, Total (URS)	
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	50 ug/mL
							BFB	2000 ug/mL
<b>MV-Gas/Ket A_00070</b>	08/05/18	02/05/18	P&T Methanol, Lot 177891	10 mL	MV-569721_00004	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00006	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
					(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
							Bromomethane	2500 ug/mL
.MV-569721_00004	01/31/20		RESTEK, Lot A0123890				Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569722_00006	01/31/20		RESTEK, Lot A0124278				Cyclohexanone	2500 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487					
<b>MV-Gas/Ket A_00075</b>	12/30/18	06/30/18	P&T Methanol, Lot 178178	10 mL	MV-569721_00006	128 uL	2-Hexanone	160 ug/mL
							4-Methyl-2-pentanone (MIBK)	160 ug/mL
							Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722_00008	160 uL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Dichlorofluoromethane	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
					MV-569727_00006	640 uL	Cyclohexanone	1600 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486		(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722_00008	10/31/20		RESTEK, Lot A0131502		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569727_00006	03/31/19		RESTEK, Lot A0118487		(Purchased Reagent)		Cyclohexanone	25000 ug/mL
<b>MV-Gas/Ket B_00043</b>	11/30/18	05/28/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722.sec_00004	160 uL	Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722.sec_00004	01/31/20		RESTEK, Lot A0124116		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
<b>MV-Gas/Ket B_00044</b>	11/30/18	07/17/18	P&T Methanol, Lot 177891	10 mL	MV-569721.sec_00005	128 uL	Acetone	160 ug/mL
							Methyl ethyl ketone (MEK)	160 ug/mL
					MV-569722.sec_00004	160 uL	Chloroethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MV-569721.sec_00005	01/31/20		RESTEK, Lot A0113880		(Purchased Reagent)		Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722.sec_00004	01/31/20		RESTEK, Lot A0124116		(Purchased Reagent)		Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
<b>MV-Main A_00037</b>	12/31/18	06/30/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	1,1,1,2-Tetrachloroethane	40 ug/mL
							1,1,1-Trichloroethane	40 ug/mL
							1,1,2,2-Tetrachloroethane	40 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	40 ug/mL
							1,1,2-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,1-Dichloropropene	40 ug/mL
							1,2,3-Trichlorobenzene	40 ug/mL
							1,2,3-Trichloropropane	40 ug/mL
							1,2,4-Trichlorobenzene	40 ug/mL
							1,2,4-Trimethylbenzene	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromo-3-Chloropropane	40 ug/mL
							1,2-Dichlorobenzene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							1,2-Dichloropropane	40 ug/mL
							1,3,5-Trimethylbenzene	40 ug/mL
							1,3-Dichlorobenzene	40 ug/mL
							1,3-Dichloropropane	40 ug/mL
							1,4-Dichlorobenzene	40 ug/mL
							1,4-Dioxane	800 ug/mL
							2,2-Dichloropropane	40 ug/mL
							2-Chlorotoluene	40 ug/mL
							2-Methyl-2-propanol	400 ug/mL
							3-Chloro-1-propene	40 ug/mL
							4-Chlorotoluene	40 ug/mL
							4-Isopropyltoluene	40 ug/mL
							Acrylonitrile	400 ug/mL
							Benzene	40 ug/mL
							Bromobenzene	40 ug/mL
							Bromoform	40 ug/mL
							Carbon disulfide	40 ug/mL
							Carbon tetrachloride	40 ug/mL
							Chlorobenzene	40 ug/mL
							Chlorobromomethane	40 ug/mL
							Chlorodibromomethane	40 ug/mL
							Chloroform	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							cis-1,3-Dichloropropene	40 ug/mL
							Cyclohexane	40 ug/mL
							Dibromomethane	40 ug/mL
							Dichlorobromomethane	40 ug/mL
							Ethyl ether	40 ug/mL
							Ethyl methacrylate	40 ug/mL
							Ethylbenzene	40 ug/mL
							Ethylene Dibromide	40 ug/mL
							Hexachlorobutadiene	40 ug/mL
							Hexane	40 ug/mL
							Iodomethane	40 ug/mL
							Isobutyl alcohol	1000 ug/mL
							Isopropylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methyl acetate	80 ug/mL
							Methyl tert-butyl ether	40 ug/mL
							Methylcyclohexane	40 ug/mL
							Methylene Chloride	40 ug/mL
							n-Butylbenzene	40 ug/mL
							n-Heptane	40 ug/mL
							N-Propylbenzene	40 ug/mL
							Naphthalene	40 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							o-Xylene	40 ug/mL
							sec-Butylbenzene	40 ug/mL
							Styrene	40 ug/mL
							tert-Butylbenzene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Tetrahydrofuran	80 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							trans-1,3-Dichloropropene	40 ug/mL
							trans-1,4-Dichloro-2-butene	40 ug/mL
							Trichloroethene	40 ug/mL
							1-Chlorohexane	40 ug/mL
							2-Pentanone	160 ug/mL
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			MV-CUS17739_00002	800 uL	sec-Butyl Alcohol	1200 ug/mL
							1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	50000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
.MV-CUS17739_00002	07/31/19	Ultra, Lot CR-2819			(Purchased Reagent)		1-Chlorohexane	1000 ug/mL
							2-Pentanone	4000 ug/mL
							sec-Butyl Alcohol	30000 ug/mL
MV-Main A_00037	12/31/18	06/30/18	P&T Methanol, Lot 177891	20 mL	MV-571992_00001	320 uL	Xylenes, Total	80 ug/mL
.MV-571992_00001	12/31/18	RESTEK, Lot A0123711			(Purchased Reagent)		Xylenes, Total	5000 ug/mL
MV-Main B_00020	07/25/18	01/25/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	1,1,1-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							Ethylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methylene Chloride	40 ug/mL
							o-Xylene	40 ug/mL
							Styrene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
							Xylenes, Total	80 ug/mL
.MV-569720.sec_00002	07/31/18		RESTEK, Lot A0120604		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-Main B_00021	07/31/18	05/14/18	P&T Methanol, Lot 127999	20 mL	MV-569720.sec_00002	320 uL	1,1,1-Trichloroethane	40 ug/mL
							1,1-Dichloroethane	40 ug/mL
							1,1-Dichloroethene	40 ug/mL
							1,2-Dichloroethane	40 ug/mL
							Benzene	40 ug/mL
							cis-1,2-Dichloroethene	40 ug/mL
							Ethylbenzene	40 ug/mL
							m-Xylene & p-Xylene	40 ug/mL
							Methylene Chloride	40 ug/mL
							o-Xylene	40 ug/mL
							Styrene	40 ug/mL
							Tetrachloroethene	40 ug/mL
							Toluene	40 ug/mL
							trans-1,2-Dichloroethene	40 ug/mL
							Trichloroethene	40 ug/mL
							Xylenes, Total	80 ug/mL
.MV-569720.sec_00002	07/31/18		RESTEK, Lot A0120604		(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-Supp A_00029	06/30/18	03/04/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00003	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
					mv-570809_00003	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
							Isopropyl ether	40 ug/mL
					mv-571993_00001	160 uL	Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-571994_00001	240 uL	Ethanol	2400 ug/mL
							cis-1,4-Dichloro-2-butene	80 ug/mL
					mv-VO-TAOH-5_00004	800 uL	Ethylene oxide	4000 ug/mL
.mv-570808_00003	06/30/18		Restek, Lot A0123685		(Purchased Reagent)		Propene oxide	4000 ug/mL
							Tetrahydrothiophene	80 ug/mL
							1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
.mv-570809_00003	06/30/18		Restek, Lot A0123728		(Purchased Reagent)		Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							Ethyl acetate	5000 ug/mL
.mv-571993_00001	12/31/18		RESTEK, Lot A0123796		(Purchased Reagent)		Methyl methacrylate	5000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
.mv-571994_00001	06/30/20		RESTEK, Lot A0128797		(Purchased Reagent)		Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
							Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00004	08/19/18		SPEX, Lot TS180220004		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
							Propene oxide	50000 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tetrahydrothiophene	1000 ug/mL
<b>MV-Supp A_00031</b>	11/20/18	06/30/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00004	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00004	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00002	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
.mv-570808_00004	05/31/19		Restek, Lot A0132816		(Purchased Reagent)		Ethanol	2400 ug/mL
							cis-1,4-Dichloro-2-butene	80 ug/mL
							Ethylene oxide	4000 ug/mL
							Propene oxide	4000 ug/mL
							Tetrahydrothiophene	80 ug/mL
							1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
.mv-570809_00004	04/30/19		Restek, Lot A0131668		(Purchased Reagent)		Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-571993_00002	11/30/19		RESTEK, Lot A0132831		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571994_00002	11/30/20		RESTEK, Lot A0132270		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
.mv-VO-TAOH-5_00005	11/20/18		SPEX, Lot EN180524019		(Purchased Reagent)		Tert-butyl ethyl ether	2500 ug/mL
							Ethanol	100000 ug/mL
							cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL



# Method 8260B

---

Volatile Organic Compounds (GC/MS)  
by Method 8260B



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid Level: Low  
 GC Column (1): DB-624 (60. ID: 0.25 (mm))

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
AFDV-209	280-111956-3	92	95	101	101
AFDV-210	280-111956-4	88	94	95	88
AFDV-211	280-111956-5	94	104	99	93
AFDV-212	280-111956-6	93	97	102	97
AFDV-213	280-111956-7	93	101	95	89
	MB 280-423341/3-A	89	92	92	87
	LCS 280-423341/1-A	94	91	95	87
	LCSD 280-423341/2-A	92	89	96	89
AFDV-212 MS	280-111956-6 MS	97	101	94	88
AFDV-212 MSD	280-111956-6 MSD	97	102	94	90

	<u>QC LIMITS</u>
DBFM = Dibromofluoromethane (Surr)	75-121
DCA = 1,2-Dichloroethane-d4 (Surr)	58-140
TOL = Toluene-d8 (Surr)	80-126
BFB = 4-Bromofluorobenzene (Surr)	76-127

# Column to be used to flag recovery values



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low  
 GC Column (1): RTX-624 ID: 0.53 (mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
AFDV-232	280-111956-1	100	98	106	107
AFDV-230	280-111956-2	103	102	108	107
AFDV-230 DL	280-111956-2 DL	104	103	106	107
AFDV-223	280-111956-8	94	79	96	95
AFDV-224	280-111956-9	96	83	95	95
	MB 280-423129/6	103	104	103	110
	MB 280-423349/6	99	84	104	109
	LCS 280-423129/4	102	103	107	105
	LCS 280-423349/4	91	77	93	97
	280-112000-B-2 MS	103	104	101	103
	280-112045-D-1 MS	92	79	95	91
	280-112000-B-2 MSD	104	107	102	107
	280-112045-D-1 MSD	94	82	94	96

	<u>QC LIMITS</u>
DBFM = Dibromofluoromethane (Surr)	77-120
DCA = 1,2-Dichloroethane-d4 (Surr)	70-127
TOL = Toluene-d8 (Surr)	80-125
BFB = 4-Bromofluorobenzene (Surr)	78-120

# Column to be used to flag recovery values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2798.D  
 Lab ID: LCS 280-423129/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1-Dichloroethane	5.00	5.06	101	65-135	
1,2-Dichloroethane	5.00	5.35	107	65-135	
Methyl ethyl ketone (MEK)	20.0	17.6	88	44-177	
Acetone	20.0	15.5	77	39-156	
1,1-Dichloroethene	5.00	4.82	96	65-136	
Benzene	5.00	4.88	98	65-135	
Chloroethane	5.00	4.87	97	46-136	
cis-1,2-Dichloroethene	5.00	4.90	98	65-135	
Ethylbenzene	5.00	4.99	100	65-135	
Methylene Chloride	5.00	5.24	105	54-141	
1,1,1-Trichloroethane	5.00	5.31	106	65-135	
Styrene	5.00	4.41	88	65-135	
m-Xylene & p-Xylene	5.00	5.14	103	65-135	
Tetrachloroethene	5.00	5.00	100	65-135	
o-Xylene	5.00	4.73	95	65-135	
Toluene	5.00	5.17	103	65-135	
trans-1,2-Dichloroethene	5.00	5.02	100	65-135	
Trichloroethene	5.00	4.88	98	65-135	
Vinyl chloride	5.00	3.83	77	40-137	
Xylenes, Total	10.0	9.87	99	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid Level: Low Lab File ID: G2\_5700.D  
 Lab ID: LCS 280-423341/1-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,1-Dichloroethane	50.0	51.8	104	70-135	
1,2-Dichloroethane	50.0	52.4	105	69-135	
Methyl ethyl ketone (MEK)	200	180	90	45-177	
Acetone	200	216	108	65-150	
1,1-Dichloroethene	50.0	50.0	100	79-135	
Benzene	50.0	48.8	98	75-135	
Chloroethane	50.0	54.4	109	51-145	
cis-1,2-Dichloroethene	50.0	50.3	101	76-135	
Ethylbenzene	50.0	47.8	96	73-125	
Methylene Chloride	50.0	51.8	104	76-136	
1,1,1-Trichloroethane	50.0	52.3	105	70-135	
Styrene	50.0	49.4	99	76-135	
m-Xylene & p-Xylene	50.0	45.9	92	77-135	
Tetrachloroethene	50.0	46.6	93	76-135	
o-Xylene	50.0	48.5	97	75-135	
Toluene	50.0	48.5	97	77-122	
trans-1,2-Dichloroethene	50.0	52.6	105	77-135	
Trichloroethene	50.0	49.8	100	77-135	
Vinyl chloride	50.0	47.4	95	43-145	
Xylenes, Total	100	94.4	94	76-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5922.D  
 Lab ID: LCS 280-423349/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1-Dichloroethane	5.00	4.04	81	65-135	
1,2-Dichloroethane	5.00	3.81	76	65-135	
Methyl ethyl ketone (MEK)	20.0	13.2	66	44-177	
Acetone	20.0	13.4	67	39-156	
1,1-Dichloroethene	5.00	4.07	81	65-136	
Benzene	5.00	4.30	86	65-135	
Chloroethane	5.00	3.19	64	46-136	
cis-1,2-Dichloroethene	5.00	4.44	89	65-135	
Ethylbenzene	5.00	4.81	96	65-135	
Methylene Chloride	5.00	3.62	72	54-141	
1,1,1-Trichloroethane	5.00	4.17	83	65-135	
Styrene	5.00	4.63	93	65-135	
m-Xylene & p-Xylene	5.00	4.79	96	65-135	
Tetrachloroethene	5.00	5.24	105	65-135	
o-Xylene	5.00	5.08	102	65-135	
Toluene	5.00	4.39	88	65-135	
trans-1,2-Dichloroethene	5.00	4.49	90	65-135	
Trichloroethene	5.00	4.40	88	65-135	
Vinyl chloride	5.00	3.18	64	40-137	
Xylenes, Total	10.0	9.87	99	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid Level: Low Lab File ID: G2\_5701.D  
 Lab ID: LCSD 280-423341/2-A Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1-Dichloroethane	50.0	50.0	100	4	20	70-135	
1,2-Dichloroethane	50.0	52.3	105	0	20	69-135	
Methyl ethyl ketone (MEK)	200	182	91	1	32	45-177	
Acetone	200	215	108	0	28	65-150	
1,1-Dichloroethene	50.0	47.4	95	5	20	79-135	
Benzene	50.0	47.2	94	3	20	75-135	
Chloroethane	50.0	51.3	103	6	22	51-145	
cis-1,2-Dichloroethene	50.0	49.1	98	2	20	76-135	
Ethylbenzene	50.0	46.9	94	2	20	73-125	
Methylene Chloride	50.0	50.7	101	2	21	76-136	
1,1,1-Trichloroethane	50.0	49.7	99	5	20	70-135	
Styrene	50.0	49.4	99	0	20	76-135	
m-Xylene & p-Xylene	50.0	45.4	91	1	20	77-135	
Tetrachloroethene	50.0	45.5	91	3	20	76-135	
o-Xylene	50.0	48.2	96	1	20	75-135	
Toluene	50.0	46.6	93	4	20	77-122	
trans-1,2-Dichloroethene	50.0	50.2	100	5	20	77-135	
Trichloroethene	50.0	47.8	96	4	20	77-135	
Vinyl chloride	50.0	44.6	89	6	24	43-145	
Xylenes, Total	100	93.6	94	1	20	76-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid Level: Low Lab File ID: G2\_5719.D  
 Lab ID: 280-111956-6 MS Client ID: AFDV-212 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Acetone	165	130	202	46	65-150	F1
Benzene	41.2	ND	32.7	79	75-135	
Methyl ethyl ketone (MEK)	165	21	181	98	45-177	
Chloroethane	41.2	ND	37.3	91	51-145	
1,1-Dichloroethane	41.2	4.0 J	43.4	96	70-135	
1,2-Dichloroethane	41.2	ND	37.0	90	69-135	
cis-1,2-Dichloroethene	41.2	ND	33.3	81	76-135	
trans-1,2-Dichloroethene	41.2	0.82 J	35.2	83	77-135	
1,1-Dichloroethene	41.2	ND	34.4	84	79-135	
Ethylbenzene	41.2	ND	29.1	71	73-125	F1
Methylene Chloride	41.2	ND	35.6	87	76-136	
Styrene	41.2	ND	24.4	59	76-135	F1
Tetrachloroethene	41.2	ND	29.4	71	76-135	F1
Toluene	41.2	0.67 J	30.9	73	77-122	F1
1,1,1-Trichloroethane	41.2	ND	35.6	87	70-135	
Trichloroethene	41.2	ND	32.0	78	77-135	
Vinyl chloride	41.2	ND	35.0	85	43-145	
m-Xylene & p-Xylene	41.2	1.5 J	27.9	64	77-135	F1
o-Xylene	41.2	ND	29.5	72	75-135	F1
Xylenes, Total	82.4	1.5 J	57.4	68	76-135	F1

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2806.D  
 Lab ID: 280-112000-B-2 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1-Dichloroethane	5.00	ND	4.96	99	65-135	
1,2-Dichloroethane	5.00	ND	5.18	104	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	18.1	91	44-177	
Acetone	20.0	3.2 J	20.4	86	39-156	
1,1-Dichloroethene	5.00	ND	4.59	92	65-136	
Benzene	5.00	ND	4.87	97	65-135	
Chloroethane	5.00	ND	5.36	107	46-136	
cis-1,2-Dichloroethene	5.00	ND	4.77	95	65-135	
Ethylbenzene	5.00	ND	4.56	91	65-135	
Methylene Chloride	5.00	ND	4.99	100	54-141	
1,1,1-Trichloroethane	5.00	ND	5.22	104	65-135	
Styrene	5.00	ND	4.18	84	65-135	
m-Xylene & p-Xylene	5.00	ND	4.92	98	65-135	
Tetrachloroethene	5.00	ND	4.61	92	65-135	
o-Xylene	5.00	ND	4.45	89	65-135	
Toluene	5.00	ND	5.21	104	65-135	
trans-1,2-Dichloroethene	5.00	ND	4.79	96	65-135	
Trichloroethene	5.00	ND	4.75	95	65-135	
Vinyl chloride	5.00	ND	4.23	85	40-137	
Xylenes, Total	10.0	ND	9.37	94	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5932.D  
 Lab ID: 280-112045-D-1 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1-Dichloroethane	5.00	ND	4.31	86	65-135	
1,2-Dichloroethane	5.00	ND	4.23	85	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	13.2	66	44-177	
Acetone	20.0	8.4 J	15.2	34	39-156	F1
1,1-Dichloroethene	5.00	ND	4.51	90	65-136	
Benzene	5.00	ND	4.67	93	65-135	
Chloroethane	5.00	ND	3.09	62	46-136	
cis-1,2-Dichloroethene	5.00	ND	4.56	91	65-135	
Ethylbenzene	5.00	ND	4.92	98	65-135	
Methylene Chloride	5.00	33	34.5	32	54-141	4
1,1,1-Trichloroethane	5.00	ND	5.03	101	65-135	
Styrene	5.00	ND	4.79	96	65-135	
m-Xylene & p-Xylene	5.00	ND	4.83	97	65-135	
Tetrachloroethene	5.00	ND	5.24	105	65-135	
o-Xylene	5.00	ND	5.31	106	65-135	
Toluene	5.00	ND	4.96	99	65-135	
trans-1,2-Dichloroethene	5.00	ND	4.78	96	65-135	
Trichloroethene	5.00	ND	4.54	91	65-135	
Vinyl chloride	5.00	ND	3.09	62	40-137	
Xylenes, Total	10.0	ND	10.1	101	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Solid Level: Low Lab File ID: G2\_5720.D  
 Lab ID: 280-111956-6 MSD Client ID: AFDV-212 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Acetone	155	183	36	10	28	65-150	F1
Benzene	38.8	30.8	79	6	20	75-135	
Methyl ethyl ketone (MEK)	155	177	101	3	32	45-177	
Chloroethane	38.8	33.0	85	12	22	51-145	
1,1-Dichloroethane	38.8	41.3	96	5	20	70-135	
1,2-Dichloroethane	38.8	34.7	89	6	20	69-135	
cis-1,2-Dichloroethene	38.8	31.7	82	5	20	76-135	
trans-1,2-Dichloroethene	38.8	33.5	84	5	20	77-135	
1,1-Dichloroethene	38.8	32.6	84	5	20	79-135	
Ethylbenzene	38.8	27.2	70	7	20	73-125	F1
Methylene Chloride	38.8	33.4	86	7	21	76-136	
Styrene	38.8	22.2	57	10	20	76-135	F1
Tetrachloroethene	38.8	27.4	71	7	20	76-135	F1
Toluene	38.8	29.0	73	6	20	77-122	F1
1,1,1-Trichloroethane	38.8	33.3	86	7	20	70-135	
Trichloroethene	38.8	29.7	77	7	20	77-135	
Vinyl chloride	38.8	31.5	81	11	24	43-145	
m-Xylene & p-Xylene	38.8	26.0	63	7	20	77-135	F1
o-Xylene	38.8	27.0	70	9	20	75-135	F1
Xylenes, Total	77.6	53.0	66	8	20	76-135	F1

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_2807.D  
 Lab ID: 280-112000-B-2 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1-Dichloroethane	5.00	4.98	100	0	21	65-135	
1,2-Dichloroethane	5.00	5.22	104	1	20	65-135	
Methyl ethyl ketone (MEK)	20.0	19.6	98	8	32	44-177	
Acetone	20.0	20.4	86	0	23	39-156	
1,1-Dichloroethene	5.00	4.59	92	0	20	65-136	
Benzene	5.00	4.82	96	1	20	65-135	
Chloroethane	5.00	5.51	110	3	25	46-136	
cis-1,2-Dichloroethene	5.00	4.84	97	2	20	65-135	
Ethylbenzene	5.00	4.47	89	2	20	65-135	
Methylene Chloride	5.00	5.13	103	3	26	54-141	
1,1,1-Trichloroethane	5.00	5.17	103	1	20	65-135	
Styrene	5.00	4.09	82	2	26	65-135	
m-Xylene & p-Xylene	5.00	4.77	95	3	20	65-135	
Tetrachloroethene	5.00	4.39	88	5	20	65-135	
o-Xylene	5.00	4.46	89	0	20	65-135	
Toluene	5.00	5.10	102	2	20	65-135	
trans-1,2-Dichloroethene	5.00	4.72	94	1	24	65-135	
Trichloroethene	5.00	4.50	90	5	20	65-135	
Vinyl chloride	5.00	4.39	88	4	24	40-137	
Xylenes, Total	10.0	9.23	92	2	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: Q5933.D  
 Lab ID: 280-112045-D-1 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1-Dichloroethane	5.00	4.24	85	2	21	65-135	
1,2-Dichloroethane	5.00	4.17	83	2	20	65-135	
Methyl ethyl ketone (MEK)	20.0	12.7	63	4	32	44-177	
Acetone	20.0	15.6	36	3	23	39-156	F1
1,1-Dichloroethene	5.00	4.73	95	5	20	65-136	
Benzene	5.00	4.67	93	0	20	65-135	
Chloroethane	5.00	3.26	65	6	25	46-136	
cis-1,2-Dichloroethene	5.00	4.71	94	3	20	65-135	
Ethylbenzene	5.00	5.15	103	5	20	65-135	
Methylene Chloride	5.00	35.1	43	2	26	54-141	4
1,1,1-Trichloroethane	5.00	4.98	100	1	20	65-135	
Styrene	5.00	4.87	97	2	26	65-135	
m-Xylene & p-Xylene	5.00	5.03	101	4	20	65-135	
Tetrachloroethene	5.00	5.25	105	0	20	65-135	
o-Xylene	5.00	5.39	108	1	20	65-135	
Toluene	5.00	4.94	99	0	20	65-135	
trans-1,2-Dichloroethene	5.00	4.96	99	4	24	65-135	
Trichloroethene	5.00	4.57	91	1	20	65-135	
Vinyl chloride	5.00	3.17	63	3	24	40-137	
Xylenes, Total	10.0	10.4	104	3	20	65-135	

# Column to be used to flag recovery and RPD values



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_2799.D Lab Sample ID: MB 280-423129/6  
Matrix: Water Heated Purge: (Y/N) Y  
Instrument ID: VMS\_MS9 Date Analyzed: 07/21/2018 10:10  
GC Column: RTX-624 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-423129/4	MS9_2798.D	07/21/2018 09:49
AFDV-232	280-111956-1	MS9_2801.D	07/21/2018 10:57
AFDV-230	280-111956-2	MS9_2802.D	07/21/2018 11:18
AFDV-230 DL	280-111956-2 DL	MS9_2803.D	07/21/2018 11:39
	280-112000-B-2 MS	MS9_2806.D	07/21/2018 12:42
	280-112000-B-2 MSD	MS9_2807.D	07/21/2018 13:03



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: G2\_5703.D Lab Sample ID: MB 280-423341/3-A  
 Matrix: Solid Heated Purge: (Y/N) Y  
 Instrument ID: VMS\_G2 Date Analyzed: 07/23/2018 23:31  
 GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-423341/1-A	G2_5700.D	07/23/2018 22:29
	LCSD 280-423341/2-A	G2_5701.D	07/23/2018 22:50
AFDV-209	280-111956-3	G2_5706.D	07/24/2018 00:32
AFDV-210	280-111956-4	G2_5707.D	07/24/2018 00:53
AFDV-211	280-111956-5	G2_5708.D	07/24/2018 01:13
AFDV-212	280-111956-6	G2_5709.D	07/24/2018 01:34
AFDV-213	280-111956-7	G2_5710.D	07/24/2018 01:54
AFDV-212 MS	280-111956-6 MS	G2_5719.D	07/24/2018 04:58
AFDV-212 MSD	280-111956-6 MSD	G2_5720.D	07/24/2018 05:18



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab File ID: Q5923.D Lab Sample ID: MB 280-423349/6  
Matrix: Water Heated Purge: (Y/N) N  
Instrument ID: VMS\_Q Date Analyzed: 07/24/2018 07:39  
GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-423349/4	Q5922.D	07/24/2018 07:02
AFDV-223	280-111956-8	Q5926.D	07/24/2018 08:50
AFDV-224	280-111956-9	Q5927.D	07/24/2018 09:13
	280-112045-D-1 MS	Q5932.D	07/24/2018 11:06
	280-112045-D-1 MSD	Q5933.D	07/24/2018 11:28



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab File ID: G2\_5565.D BFB Injection Date: 07/19/2018  
Instrument ID: VMS\_G2 BFB Injection Time: 18:59  
Analysis Batch No.: 422928

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	18.1
75	30.0 - 60.0 % of mass 95	46.7
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.9
173	Less than 2.0 % of mass 174	0.1 (0.2) 1
174	50.0 - 120.00 % of mass 95	72.9
175	5.0 - 9.0 % of mass 174	5.6 (7.6) 1
176	95.0 - 101.0 % of mass 174	69.8 (95.8) 1
177	5.0 - 9.0 % of mass 176	4.6 (6.7) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD01 280-422928/12	G2_5567.D	07/19/2018	19:45
	STD02 280-422928/13	G2_5568.D	07/19/2018	20:05
	STD05 280-422928/14	G2_5569.D	07/19/2018	20:26
	STD10 280-422928/15	G2_5570.D	07/19/2018	20:46
	STD20 280-422928/16	G2_5571.D	07/19/2018	21:07
	STD50 280-422928/17	G2_5572.D	07/19/2018	21:27
	STD100 280-422928/18	G2_5573.D	07/19/2018	21:48
	STD200 280-422928/19	G2_5574.D	07/19/2018	22:08
	ICV 280-422928/20	G2_5576.D	07/19/2018	22:49
	STD01 280-422928/21	G2_5578.D	07/19/2018	23:30
	STD02 280-422928/22	G2_5579.D	07/19/2018	23:50
	STD05 280-422928/23	G2_5580.D	07/20/2018	00:11
	STD10 280-422928/24	G2_5581.D	07/20/2018	00:31
	STD20 280-422928/25	G2_5582.D	07/20/2018	00:51
	ICIS 280-422928/26	G2_5583.D	07/20/2018	01:12
	STD100 280-422928/27	G2_5584.D	07/20/2018	01:32
	STD200 280-422928/28	G2_5585.D	07/20/2018	01:52
	ICV 280-422928/29	G2_5586.D	07/20/2018	02:13



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: G2\_5686.D BFB Injection Date: 07/23/2018  
 Instrument ID: VMS\_G2 BFB Injection Time: 17:38  
 Analysis Batch No.: 423317

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	20.4
75	30.0 - 60.0 % of mass 95	50.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.2
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	70.3
175	5.0 - 9.0 % of mass 174	5.1 (7.3) 1
176	95.0 - 101.0 % of mass 174	67.3 (95.8) 1
177	5.0 - 9.0 % of mass 176	4.8 (7.1) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD01 280-423317/10	G2_5688.D	07/23/2018	18:23
	STD02 280-423317/11	G2_5689.D	07/23/2018	18:43
	STD05 280-423317/12	G2_5690.D	07/23/2018	19:04
	STD10 280-423317/13	G2_5691.D	07/23/2018	19:24
	STD20 280-423317/14	G2_5692.D	07/23/2018	19:45
	STD50 280-423317/15	G2_5693.D	07/23/2018	20:05
	STD100 280-423317/16	G2_5694.D	07/23/2018	20:26
	STD200 280-423317/17	G2_5695.D	07/23/2018	20:46
	ICV 280-423317/18	G2_5696.D	07/23/2018	21:07



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab File ID: G2\_5686.D BFB Injection Date: 07/23/2018  
Instrument ID: VMS\_G2 BFB Injection Time: 17:38  
Analysis Batch No.: 423345

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	20.4
75	30.0 - 60.0 % of mass 95	50.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.2
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	70.3
175	5.0 - 9.0 % of mass 174	5.1 (7.3) 1
176	95.0 - 101.0 % of mass 174	67.3 (95.8) 1
177	5.0 - 9.0 % of mass 176	4.8 (7.1) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-423345/19	G2_5698.D	07/23/2018	21:48
	CCV 280-423345/20	G2_5699.D	07/23/2018	22:08
	LCS 280-423341/1-A	G2_5700.D	07/23/2018	22:29
	LCSD 280-423341/2-A	G2_5701.D	07/23/2018	22:50
	MB 280-423341/3-A	G2_5703.D	07/23/2018	23:31
AFDV-209	280-111956-3	G2_5706.D	07/24/2018	00:32
AFDV-210	280-111956-4	G2_5707.D	07/24/2018	00:53
AFDV-211	280-111956-5	G2_5708.D	07/24/2018	01:13
AFDV-212	280-111956-6	G2_5709.D	07/24/2018	01:34
AFDV-213	280-111956-7	G2_5710.D	07/24/2018	01:54
AFDV-212 MS	280-111956-6 MS	G2_5719.D	07/24/2018	04:58
AFDV-212 MSD	280-111956-6 MSD	G2_5720.D	07/24/2018	05:18



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_2590.D BFB Injection Date: 07/16/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 22:08  
 Analysis Batch No.: 422406

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	24.8
75	30.0 - 60.0 % of mass 95	59.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.3
173	Less than 2.0 % of mass 174	0.3 (0.4) 1
174	50.0 - 120.00 % of mass 95	94.6
175	5.0 - 9.0 % of mass 174	8.0 (8.5) 1
176	95.0 - 101.0 % of mass 174	90.7 (95.8) 1
177	5.0 - 9.0 % of mass 176	6.8 (7.5) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD2 280-422406/10	MS9_2593.D	07/16/2018	23:11
	STD5 280-422406/11	MS9_2594.D	07/16/2018	23:32
	STD10 280-422406/12	MS9_2595.D	07/16/2018	23:53
	STD30 280-422406/13	MS9_2596.D	07/17/2018	00:14
	STD60 280-422406/14	MS9_2597.D	07/17/2018	00:35



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_2794.D BFB Injection Date: 07/21/2018  
Instrument ID: VMS\_MS9 BFB Injection Time: 08:26  
Analysis Batch No.: 423129

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	22.5
75	30.0 - 60.0 % of mass 95	53.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.3
173	Less than 2.0 % of mass 174	0.8 (0.9) 1
174	50.0 - 120.00 % of mass 95	87.7
175	5.0 - 9.0 % of mass 174	7.0 (8.0) 1
176	95.0 - 101.0 % of mass 174	85.5 (97.5) 1
177	5.0 - 9.0 % of mass 176	5.9 (6.8) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-423129/2	MS9_2796.D	07/21/2018	09:07
	CCV 280-423129/3	MS9_2797.D	07/21/2018	09:28
	LCS 280-423129/4	MS9_2798.D	07/21/2018	09:49
	MB 280-423129/6	MS9_2799.D	07/21/2018	10:10
AFDV-232	280-111956-1	MS9_2801.D	07/21/2018	10:57
AFDV-230	280-111956-2	MS9_2802.D	07/21/2018	11:18
AFDV-230 DL	280-111956-2 DL	MS9_2803.D	07/21/2018	11:39
	280-112000-B-2 MS	MS9_2806.D	07/21/2018	12:42
	280-112000-B-2 MSD	MS9_2807.D	07/21/2018	13:03



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q4999.D BFB Injection Date: 06/25/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 08:50  
 Analysis Batch No.: 419807

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	17.3
75	30.0 - 60.0 % of mass 95	44.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.9
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	65.8
175	5.0 - 9.0 % of mass 174	4.8 (7.2) 1
176	95.0 - 101.0 % of mass 174	63.9 (97.1) 1
177	5.0 - 9.0 % of mass 176	5.0 (7.9) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD010 280-419807/19	Q5010.D	06/25/2018	12:56
	STD020 280-419807/20	Q5011.D	06/25/2018	13:19
	ICIS 280-419807/22	Q5013.D	06/25/2018	14:05
	STD30 280-419807/23	Q5014.D	06/25/2018	14:28
	STD60 280-419807/24	Q5015.D	06/25/2018	14:51
	STD050 280-419807/21	Q5016.D	06/25/2018	15:14
	ICV 280-419807/25	Q5018.D	06/25/2018	15:59



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q5623.D BFB Injection Date: 07/12/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 13:44  
 Analysis Batch No.: 422015

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	23.5
75	30.0 - 60.0 % of mass 95	55.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.0
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	64.7
175	5.0 - 9.0 % of mass 174	4.8 (7.4) 1
176	95.0 - 101.0 % of mass 174	61.7 (95.4) 1
177	5.0 - 9.0 % of mass 176	4.6 (7.4) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD003 280-422015/12	Q5624.D	07/12/2018	13:55
	STD010 280-422015/13	Q5625.D	07/12/2018	14:17
	STD020 280-422015/14	Q5626.D	07/12/2018	14:39
	STD050 280-422015/15	Q5627.D	07/12/2018	15:02
	STD10 280-422015/16	Q5628.D	07/12/2018	15:41
	STD30 280-422015/17	Q5629.D	07/12/2018	16:03
	STD60 280-422015/18	Q5630.D	07/12/2018	16:26
	ICV 280-422015/19	Q5632.D	07/12/2018	17:11



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q5635.D BFB Injection Date: 07/16/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 08:55  
 Analysis Batch No.: 422281

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	22.8
75	30.0 - 60.0 % of mass 95	52.2
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.3
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	60.8
175	5.0 - 9.0 % of mass 174	4.7 (7.7) 1
176	95.0 - 101.0 % of mass 174	59.0 (96.9) 1
177	5.0 - 9.0 % of mass 176	4.5 (7.6) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICV 280-422281/12	Q5637.D	07/16/2018	09:45



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: Q5918.D BFB Injection Date: 07/24/2018  
 Instrument ID: VMS\_Q BFB Injection Time: 05:35  
 Analysis Batch No.: 423349

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	18.0	
75	30.0 - 60.0 % of mass 95	49.4	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	8.1	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	71.7	
175	5.0 - 9.0 % of mass 174	5.4	(7.6) 1
176	95.0 - 101.0 % of mass 174	69.2	(96.5) 1
177	5.0 - 9.0 % of mass 176	5.0	(7.2) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-423349/3	Q5920.D	07/24/2018	06:16
	CCV 280-423349/2	Q5921.D	07/24/2018	06:39
	LCS 280-423349/4	Q5922.D	07/24/2018	07:02
	MB 280-423349/6	Q5923.D	07/24/2018	07:39
AFDV-223	280-111956-8	Q5926.D	07/24/2018	08:50
AFDV-224	280-111956-9	Q5927.D	07/24/2018	09:13
	280-112045-D-1 MS	Q5932.D	07/24/2018	11:06
	280-112045-D-1 MSD	Q5933.D	07/24/2018	11:28



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-422928/26 Date Analyzed: 07/20/2018 01:12  
 Instrument ID: VMS\_G2 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): G2\_5583.D Heated Purge: (Y/N) Y  
 Calibration ID: 33084

	TBA <sub>d</sub> 9		FB		CBN <sub>Zd</sub> 5	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	469614	3.72	1203125	7.32	264076	10.50
UPPER LIMIT	939228	4.22	2406250	7.82	528152	11.00
LOWER LIMIT	234807	3.22	601563	6.82	132038	10.00
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-422928/29		499702	3.72	1196163	7.32	264184 10.50
CCV 280-423345/19		763197	3.72	1309062	7.32	298483 10.50
CCV 280-423345/20		682044	3.72	1284462	7.32	284873 10.50
LCS 280-423341/1-A		683352	3.72	1483008	7.32	338766 10.50
LCSD 280-423341/2-A		709769	3.72	1560631	7.32	346511 10.50
MB 280-423341/3-A		748483	3.72	1529633	7.32	344202 10.50
280-111956-3	AFDV-209	678916	3.72	1491769	7.33	304964 10.50
280-111956-4	AFDV-210	384460	3.73	1346282	7.33	294435 10.50
280-111956-5	AFDV-211	541677	3.73	1306570	7.33	288744 10.50
280-111956-6	AFDV-212	337991	3.72	1404160	7.32	289148 10.50
280-111956-7	AFDV-213	991840*	3.72	1449752	7.32	321600 10.50
280-111956-6 MS	AFDV-212 MS	839390	3.72	1419723	7.32	324198 10.50
280-111956-6 MSD	AFDV-212 MSD	924874	3.72	1452404	7.32	332552 10.50

TBA<sub>d</sub>9 = TBA-d9 (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-422928/26 Date Analyzed: 07/20/2018 01:12  
 Instrument ID: VMS\_G2 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): G2\_5583.D Heated Purge: (Y/N) Y  
 Calibration ID: 33084

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		402736	12.61				
UPPER LIMIT		805472	13.11				
LOWER LIMIT		201368	12.11				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-422928/29		404008	12.61				
CCV 280-423345/19		471937	12.61				
CCV 280-423345/20		430244	12.61				
LCS 280-423341/1-A		529002	12.61				
LCSD 280-423341/2-A		534897	12.61				
MB 280-423341/3-A		528498	12.61				
280-111956-3	AFDV-209	372205	12.61				
280-111956-4	AFDV-210	451740	12.61				
280-111956-5	AFDV-211	444357	12.61				
280-111956-6	AFDV-212	372064	12.61				
280-111956-7	AFDV-213	497836	12.61				
280-111956-6 MS	AFDV-212 MS	510197	12.61				
280-111956-6 MSD	AFDV-212 MSD	511750	12.61				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-421403/27 Date Analyzed: 07/08/2018 17:51  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_2372.D Heated Purge: (Y/N) Y  
 Calibration ID: 32952

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		131014	5.51	1030917	7.30	258192	9.63
UPPER LIMIT		262028	6.01	2061834	7.80	516384	10.13
LOWER LIMIT		65507	5.01	515459	6.80	129096	9.13
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-421403/30		122261	5.52	952140	7.30	247006	9.63
CCV 280-423129/2		124240	5.52	1093236	7.30	288917	9.63
CCV 280-423129/3		128534	5.53	1192747	7.30	315004	9.63
LCS 280-423129/4		130311	5.53	1183501	7.30	304418	9.63
MB 280-423129/6		127003	5.52	1167095	7.30	308146	9.63
280-111956-1	AFDV-232	97969	5.52	1121113	7.30	281820	9.63
280-111956-2	AFDV-230	115304	5.53	1186598	7.31	294110	9.63
280-111956-2 DL	AFDV-230 DL	113068	5.52	1146311	7.30	291834	9.63
280-112000-B-2 MS		131738	5.52	1179633	7.30	316995	9.63
280-112000-B-2 MSD		145590	5.52	1224137	7.30	327292	9.63

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-421403/27 Date Analyzed: 07/08/2018 17:51  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_2372.D Heated Purge: (Y/N) Y  
 Calibration ID: 32952

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		395541	11.77				
UPPER LIMIT		791082	12.27				
LOWER LIMIT		197771	11.27				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-421403/30		380301	11.77				
CCV 280-423129/2		453113	11.77				
CCV 280-423129/3		445452	11.77				
LCS 280-423129/4		468703	11.77				
MB 280-423129/6		433800	11.77				
280-111956-1	AFDV-232	399680	11.77				
280-111956-2	AFDV-230	421815	11.77				
280-111956-2 DL	AFDV-230 DL	423030	11.77				
280-112000-B-2 MS		478733	11.77				
280-112000-B-2 MSD		489464	11.77				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419807/22 Date Analyzed: 06/25/2018 14:05  
 Instrument ID: VMS\_Q GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): Q5013.D Heated Purge: (Y/N) N  
 Calibration ID: 32817

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		169739	5.86	2692007	7.79	504515	10.02
UPPER LIMIT		339478	6.36	5384014	8.29	1009030	10.52
LOWER LIMIT		84870	5.36	1346004	7.29	252258	9.52
LAB SAMPLE ID		CLIENT SAMPLE ID					
ICV 280-419807/25		159854	5.86	2227555	7.79	434432	10.02
CCV 280-423349/3		152313	5.87	3019832	7.80	606588	10.03
CCV 280-423349/2		154908	5.87	2601053	7.80	572395	10.03
LCS 280-423349/4		155784	5.87	3084571	7.80	619669	10.03
MB 280-423349/6		125501	5.87	2841102	7.79	557280	10.03
280-111956-8	AFDV-223	117789	5.88	2384309	7.80	522772	10.03
280-111956-9	AFDV-224	126484	5.88	2316399	7.80	510117	10.03
280-112045-D-1 MS		125284	5.87	2525698	7.80	544584	10.03
280-112045-D-1 MSD		139731	5.88	2482290	7.80	546593	10.03

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-419807/22 Date Analyzed: 06/25/2018 14:05  
 Instrument ID: VMS\_Q GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): Q5013.D Heated Purge: (Y/N) N  
 Calibration ID: 32817

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		567283	11.86				
UPPER LIMIT		1134566	12.36				
LOWER LIMIT		283642	11.36				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-419807/25		485930	11.86				
CCV 280-423349/3		691258	11.87				
CCV 280-423349/2		728742	11.87				
LCS 280-423349/4		716987	11.87				
MB 280-423349/6		599168	11.87				
280-111956-8	AFDV-223	595444	11.87				
280-111956-9	AFDV-224	589512	11.87				
280-112045-D-1 MS		695871	11.87				
280-112045-D-1 MSD		683317	11.87				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-232</u>	Lab Sample ID: <u>280-111956-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2801.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 07:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/21/2018 10:57</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423129</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	6.3	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	100		77-120
2037-26-5	Toluene-d8 (Surr)	106		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-230</u>	Lab Sample ID: <u>280-111956-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_2802.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 11:40</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/21/2018 11:18</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>2</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423129</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		2.0	0.32
75-34-3	1,1-Dichloroethane	120		2.0	0.44
75-35-4	1,1-Dichloroethene	7.8		2.0	0.46
107-06-2	1,2-Dichloroethane	0.63	J	2.0	0.26
78-93-3	Methyl ethyl ketone (MEK)	ND		12	4.0
67-64-1	Acetone	ND		20	3.8
71-43-2	Benzene	ND		2.0	0.32
75-00-3	Chloroethane	ND		4.0	0.82
156-59-2	<i>cis</i> -1,2-Dichloroethene	310	E	2.0	0.30
100-41-4	Ethylbenzene	ND		2.0	0.32
75-09-2	Methylene Chloride	ND		4.0	0.64
179601-23-1	m-Xylene & p-Xylene	ND		4.0	0.68
95-47-6	o-Xylene	ND		2.0	0.38
100-42-5	Styrene	ND		2.0	0.34
127-18-4	Tetrachloroethene	ND		2.0	0.40
108-88-3	Toluene	ND		2.0	0.34
156-60-5	<i>trans</i> -1,2-Dichloroethene	0.81	J	2.0	0.30
79-01-6	Trichloroethene	ND		2.0	0.32
75-01-4	<i>Vinyl chloride</i>	120	E	2.0	0.20
1330-20-7	Xylenes, Total	ND		4.0	0.38

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	103		77-120
2037-26-5	Toluene-d8 (Surr)	108		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-230 DL Lab Sample ID: 280-111956-2 DL  
 Matrix: Water Lab File ID: MS9\_2803.D  
 Analysis Method: 8260B Date Collected: 07/12/2018 11:40  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/21/2018 11:39  
 Soil Aliquot Vol.: \_\_\_\_\_ Dilution Factor: 10  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423129 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	170		10	1.5
75-01-4	Vinyl chloride	70		10	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	104		77-120
2037-26-5	Toluene-d8 (Surr)	106		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-209 Lab Sample ID: 280-111956-3

Matrix: Solid Lab File ID: G2\_5706.D

Analysis Method: 8260B Date Collected: 07/12/2018 07:30

Sample wt/vol: 5.299(g) Date Analyzed: 07/24/2018 00:32

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 423345 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	100		19	5.1
71-43-2	Benzene	ND		4.7	0.44
78-93-3	Methyl ethyl ketone (MEK)	21		19	1.7
75-00-3	Chloroethane	ND		9.4	0.84
75-34-3	1,1-Dichloroethane	6.6		4.7	0.20
107-06-2	1,2-Dichloroethane	ND		4.7	0.66
156-59-2	cis-1,2-Dichloroethene	12		2.4	0.53
156-60-5	trans-1,2-Dichloroethene	3.2		2.4	0.37
75-35-4	1,1-Dichloroethene	ND		4.7	0.56
100-41-4	Ethylbenzene	ND		4.7	0.63
75-09-2	Methylene Chloride	ND		4.7	1.5
100-42-5	Styrene	ND		4.7	0.59
127-18-4	Tetrachloroethene	0.71	J	4.7	0.56
108-88-3	Toluene	ND		4.7	0.65
71-55-6	1,1,1-Trichloroethane	ND		4.7	0.49
79-01-6	Trichloroethene	0.61	J	4.7	0.22
75-01-4	Vinyl chloride	ND		4.7	1.3
179601-23-1	m-Xylene & p-Xylene	ND		2.4	0.98
95-47-6	o-Xylene	ND		2.4	0.58
1330-20-7	Xylenes, Total	ND		4.7	0.58

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		58-140
2037-26-5	Toluene-d8 (Surr)	101		80-126
460-00-4	4-Bromofluorobenzene (Surr)	101		76-127
1868-53-7	Dibromofluoromethane (Surr)	92		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-210</u>	Lab Sample ID: <u>280-111956-4</u>
Matrix: <u>Solid</u>	Lab File ID: <u>G2_5707.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 07:35</u>
Sample wt/vol: <u>5.831(g)</u>	Date Analyzed: <u>07/24/2018 00:53</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423345</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	53		17	4.6
71-43-2	Benzene	ND		4.3	0.40
78-93-3	Methyl ethyl ketone (MEK)	10	J	17	1.6
75-00-3	Chloroethane	ND		8.6	0.76
75-34-3	1,1-Dichloroethane	0.52	J	4.3	0.18
107-06-2	1,2-Dichloroethane	ND		4.3	0.60
156-59-2	cis-1,2-Dichloroethene	1.6	J	2.1	0.48
156-60-5	trans-1,2-Dichloroethene	ND		2.1	0.33
75-35-4	1,1-Dichloroethene	ND		4.3	0.51
100-41-4	Ethylbenzene	ND		4.3	0.57
75-09-2	Methylene Chloride	ND		4.3	1.4
100-42-5	Styrene	ND		4.3	0.54
127-18-4	Tetrachloroethene	ND		4.3	0.51
108-88-3	Toluene	ND		4.3	0.59
71-55-6	1,1,1-Trichloroethane	ND		4.3	0.45
79-01-6	Trichloroethene	ND		4.3	0.20
75-01-4	Vinyl chloride	3.8	J	4.3	1.1
179601-23-1	m-Xylene & p-Xylene	ND		2.1	0.89
95-47-6	o-Xylene	ND		2.1	0.52
1330-20-7	Xylenes, Total	ND		4.3	0.52

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	94		58-140
2037-26-5	Toluene-d8 (Surr)	95		80-126
460-00-4	4-Bromofluorobenzene (Surr)	88		76-127
1868-53-7	Dibromofluoromethane (Surr)	88		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-211</u>	Lab Sample ID: <u>280-111956-5</u>
Matrix: <u>Solid</u>	Lab File ID: <u>G2_5708.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 07:40</u>
Sample wt/vol: <u>6.705(g)</u>	Date Analyzed: <u>07/24/2018 01:13</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423345</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	55		15	4.0
71-43-2	Benzene	ND		3.7	0.35
78-93-3	Methyl ethyl ketone (MEK)	8.5	J	15	1.4
75-00-3	Chloroethane	ND		7.5	0.66
75-34-3	1,1-Dichloroethane	0.77	J	3.7	0.16
107-06-2	1,2-Dichloroethane	ND		3.7	0.52
156-59-2	cis-1,2-Dichloroethene	2.3		1.9	0.42
156-60-5	trans-1,2-Dichloroethene	ND		1.9	0.29
75-35-4	1,1-Dichloroethene	ND		3.7	0.44
100-41-4	Ethylbenzene	ND		3.7	0.50
75-09-2	Methylene Chloride	ND		3.7	1.2
100-42-5	Styrene	ND		3.7	0.47
127-18-4	Tetrachloroethene	ND		3.7	0.44
108-88-3	Toluene	ND		3.7	0.51
71-55-6	1,1,1-Trichloroethane	ND		3.7	0.39
79-01-6	Trichloroethene	ND		3.7	0.17
75-01-4	Vinyl chloride	6.8		3.7	1.0
179601-23-1	m-Xylene & p-Xylene	ND		1.9	0.78
95-47-6	o-Xylene	ND		1.9	0.45
1330-20-7	Xylenes, Total	ND		3.7	0.45

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		58-140
2037-26-5	Toluene-d8 (Surr)	99		80-126
460-00-4	4-Bromofluorobenzene (Surr)	93		76-127
1868-53-7	Dibromofluoromethane (Surr)	94		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-212</u>	Lab Sample ID: <u>280-111956-6</u>
Matrix: <u>Solid</u>	Lab File ID: <u>G2_5709.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 07:05</u>
Sample wt/vol: <u>5.997(g)</u>	Date Analyzed: <u>07/24/2018 01:34</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423345</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	130	F1	17	4.5
71-43-2	Benzene	ND		4.2	0.39
78-93-3	Methyl ethyl ketone (MEK)	21		17	1.5
75-00-3	Chloroethane	ND		8.3	0.74
75-34-3	1,1-Dichloroethane	4.0	J	4.2	0.18
107-06-2	1,2-Dichloroethane	ND		4.2	0.58
156-59-2	cis-1,2-Dichloroethene	ND		2.1	0.47
156-60-5	trans-1,2-Dichloroethene	0.82	J	2.1	0.33
75-35-4	1,1-Dichloroethene	ND		4.2	0.49
100-41-4	Ethylbenzene	ND	F1	4.2	0.56
75-09-2	Methylene Chloride	ND		4.2	1.3
100-42-5	Styrene	ND	F1	4.2	0.53
127-18-4	Tetrachloroethene	ND	F1	4.2	0.49
108-88-3	Toluene	0.67	J F1	4.2	0.58
71-55-6	1,1,1-Trichloroethane	ND		4.2	0.43
79-01-6	Trichloroethene	ND		4.2	0.19
75-01-4	Vinyl chloride	ND		4.2	1.1
179601-23-1	m-Xylene & p-Xylene	1.5	J F1	2.1	0.87
95-47-6	o-Xylene	ND	F1	2.1	0.51
1330-20-7	Xylenes, Total	1.5	J F1	4.2	0.51

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		58-140
2037-26-5	Toluene-d8 (Surr)	102		80-126
460-00-4	4-Bromofluorobenzene (Surr)	97		76-127
1868-53-7	Dibromofluoromethane (Surr)	93		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-213 Lab Sample ID: 280-111956-7  
 Matrix: Solid Lab File ID: G2\_5710.D  
 Analysis Method: 8260B Date Collected: 07/12/2018 07:10  
 Sample wt/vol: 7.032(g) Date Analyzed: 07/24/2018 01:54  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423345 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	47		14	3.8
71-43-2	Benzene	ND		3.6	0.33
78-93-3	Methyl ethyl ketone (MEK)	8.3	J	14	1.3
75-00-3	Chloroethane	ND		7.1	0.63
75-34-3	1,1-Dichloroethane	1.6	J	3.6	0.15
107-06-2	1,2-Dichloroethane	ND		3.6	0.50
156-59-2	cis-1,2-Dichloroethene	30		1.8	0.40
156-60-5	trans-1,2-Dichloroethene	ND		1.8	0.28
75-35-4	1,1-Dichloroethene	ND		3.6	0.42
100-41-4	Ethylbenzene	ND		3.6	0.48
75-09-2	Methylene Chloride	ND		3.6	1.1
100-42-5	Styrene	ND		3.6	0.45
127-18-4	Tetrachloroethene	ND		3.6	0.42
108-88-3	Toluene	ND		3.6	0.49
71-55-6	1,1,1-Trichloroethane	ND		3.6	0.37
79-01-6	Trichloroethene	1.8	J	3.6	0.16
75-01-4	Vinyl chloride	11		3.6	0.95
179601-23-1	m-Xylene & p-Xylene	ND		1.8	0.74
95-47-6	o-Xylene	ND		1.8	0.43
1330-20-7	Xylenes, Total	ND		3.6	0.43

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		58-140
2037-26-5	Toluene-d8 (Surr)	95		80-126
460-00-4	4-Bromofluorobenzene (Surr)	89		76-127
1868-53-7	Dibromofluoromethane (Surr)	93		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-223</u>	Lab Sample ID: <u>280-111956-8</u>
Matrix: <u>Water</u>	Lab File ID: <u>Q5926.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 09:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/24/2018 08:50</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423349</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	3.4	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	79		70-127
460-00-4	4-Bromofluorobenzene (Surr)	95		78-120
1868-53-7	Dibromofluoromethane (Surr)	94		77-120
2037-26-5	Toluene-d8 (Surr)	96		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-224</u>	Lab Sample ID: <u>280-111956-9</u>
Matrix: <u>Water</u>	Lab File ID: <u>Q5927.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 09:05</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/24/2018 09:13</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423349</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	83		70-127
460-00-4	4-Bromofluorobenzene (Surr)	95		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	95		80-125



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-422928/12	G2_5567.D
Level 2	STD02 280-422928/13	G2_5568.D
Level 3	STD05 280-422928/14	G2_5569.D
Level 4	STD10 280-422928/15	G2_5570.D
Level 5	STD20 280-422928/16	G2_5571.D
Level 6	STD50 280-422928/17	G2_5572.D
Level 7	STD100 280-422928/18	G2_5573.D
Level 8	STD200 280-422928/19	G2_5574.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7	LVL 8														
Dichlorodifluoromethane	0.4275 0.4581	0.3449 0.4177	0.3392 0.4001	0.3335	0.3273	Lin1	-0.115	0.4080							0.9940		0.9900
Chloromethane	0.5030 0.4136	0.4068 0.3777	0.3728 0.3708	0.3539	0.3463	Ave		0.3931			0.1000	12.7		15.0			
Vinyl chloride	0.4242 0.4058	0.3537 0.3631	0.3353 0.3529	0.3413	0.3388	Ave		0.3644				9.0		30.0			
Bromomethane	++++ 0.1673	0.2148 0.1193	0.1846 0.0742	0.1695	0.1301	Qua	0.0020	0.1739	-0.000500						0.9930		0.9900
Chloroethane	++++ 0.1657	0.2004 0.1153	0.1794 0.0829	0.1636	0.1350	Qua	0.1221	0.1600	-0.000391						0.9920		0.9900
Dichlorofluoromethane	0.7043 0.6519	0.6212 0.5879	0.5947 0.5568	0.5770	0.5713	Ave		0.6082				8.1		15.0			
Trichlorofluoromethane	0.5410 0.5245	0.4609 0.4808	0.4514 0.4598	0.4463	0.4489	Ave		0.4767				7.6		15.0			
Ethyl ether	0.2719 0.2829	0.2615 0.2533	0.2519 0.2509	0.2490	0.2538	Ave		0.2594				4.6		15.0			
Acrolein	0.0396 0.0547	0.0400 0.0474	0.0434 0.0486	0.0443	0.0450	Ave		0.0454				10.8		15.0			
1,1-Dichloroethene	0.2951 0.3033	0.2678 0.2749	0.2727 0.2686	0.2681	0.2653	Ave		0.2770				5.1		30.0			
Freon 113	0.2236 0.2407	0.2203 0.2215	0.2133 0.2184	0.2147	0.2143	Ave		0.2208				4.0		15.0			
Acetone	++++ 0.0924	0.1373 0.0786	0.0969 0.0784	0.0833	0.0788	Lin2	0.4538	0.0779							0.9920		0.9900
Iodomethane	0.4519 0.4737	0.4224 0.4371	0.4200 0.4321	0.4147	0.4225	Ave		0.4343				4.6		15.0			
Carbon disulfide	1.2903 1.1485	1.0575 1.0492	1.0305 1.0224	1.0079	0.9970	Ave		1.0754				9.2		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.6376 0.5556	0.5425 0.5085	0.5067 0.4947	0.4935	0.4905	Ave		0.5287				9.5		15.0			
Methyl acetate	0.4358 0.2501	0.3117 0.2142	0.2277 0.2143	0.1887	0.2139	Lin1	0.3498	0.2158							0.9950		0.9900
Methylene Chloride	0.7635 0.3427	0.4716 0.3106	0.3727 0.3058	0.3370	0.3199	Lin2	0.4371	0.3000							0.9910		0.9900
Tert-butyl alcohol (2-methyl-2-propanol)	0.0281 0.0293	0.0274 0.0253	0.0269 0.0274	0.0248	0.0253	Ave		0.0268				5.9		15.0			
Acrylonitrile	++++ 0.1189	0.0739 0.1041	0.0897 0.1053	0.0949	0.0992	Ave		0.0980				14.4		15.0			
Methyl tert-butyl ether	0.8186 0.8289	0.7595 0.7442	0.7376 0.7546	0.7313	0.7356	Ave		0.7638				5.0		15.0			
trans-1,2-Dichloroethene	0.2892 0.3235	0.2813 0.2954	0.2827 0.2909	0.2818	0.2824	Ave		0.2909				4.9		15.0			
Hexane	3.0272 2.7531	2.5952 2.5497	2.5451 2.4121	2.5319	2.4982	Ave		2.6141				7.4		15.0			
1,1-Dichloroethane	0.6171 0.6138	0.5460 0.5599	0.5532 0.5508	0.5418	0.5507	Ave		0.5667			0.1000	5.4		15.0			
Vinyl acetate	++++ 0.5529	0.4046 0.5105	0.4169 0.5287	0.4315	0.4536	Lin2	-0.489	0.5022							0.9920		0.9900
2,2-Dichloropropane	++++ 0.5048	++++ 0.4400	0.5968 0.4516	0.5413	0.4846	Lin2	0.7324	0.4562							0.9970		0.9900
cis-1,2-Dichloroethene	0.3479 0.3547	0.3026 0.3263	0.3167 0.3222	0.3098	0.3177	Ave		0.3247				5.5		15.0			
2-Butanone (MEK)	0.2197 0.1459	0.1521 0.1291	0.1172 0.1319	0.1131	0.1142	Lin1	0.1614	0.1309							0.9960		0.9900
Chlorobromomethane	0.0996 0.1441	0.1167 0.1317	0.1184 0.1346	0.1259	0.1296	Lin2	-0.035	0.1333							0.9980		0.9900
Tetrahydrofuran	++++ 0.1080	0.0978 0.0939	0.0755 0.0978	0.0913	0.0927	Ave		0.0939				10.4		15.0			
sec-Butyl Alcohol	++++ 0.0264	0.0172 0.0248	0.0152 0.0276	0.0167	0.0196	Lin1	-1.316	0.0266							0.9930		0.9900
Chloroform	0.5139 0.5259	0.4787 0.4820	0.4608 0.4741	0.4662	0.4691	Ave		0.4838				4.9		30.0			
1,1,1-Trichloroethane	0.3998 0.4350	0.3696 0.4107	0.3712 0.4075	0.3775	0.3819	Ave		0.3941				5.8		15.0			
Cyclohexane	1.0441 0.7034	0.7797 0.6399	0.7009 0.6210	0.6612	0.6348	Lin2	0.3871	0.6319							0.9960		0.9900
Carbon tetrachloride	0.3323 0.3604	0.2784 0.3454	0.2911 0.3489	0.2960	0.3038	Ave		0.3195				9.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.4596 0.4614	0.4018 0.4229	0.4121 0.4124	0.4051	0.4109	Ave		0.4233				5.6		15.0			
Benzene	1.4964 1.3762	1.3047 1.2466	1.2851 1.2045	1.2502	1.2462	Ave		1.3012				7.2		15.0			
1,2-Dichloroethane	0.3604 0.3863	0.3423 0.3504	0.3401 0.3503	0.3419	0.3442	Ave		0.3520				4.4		15.0			
n-Heptane	0.7509 0.6209	0.6559 0.5662	0.6013 0.5354	0.5597	0.5610	Ave		0.6064				11.6		15.0			
Isobutyl alcohol	0.0181 0.0141	0.0150 0.0129	0.0142 0.0123	0.0136	0.0131	Ave		0.0142				12.9		15.0			
Trichloroethene	0.3156 0.3209	0.2908 0.2956	0.2937 0.2879	0.2876	0.2855	Ave		0.2972				4.5		15.0			
2-Pentanone	0.2444 0.2800	0.2497 0.2308	0.2109 0.2303	0.2071	0.2403	Ave		0.2367				9.8		15.0			
Methylcyclohexane	0.6506 0.5596	0.5350 0.5100	0.5335 0.4888	0.5177	0.5065	Ave		0.5377				9.4		15.0			
1,2-Dichloropropane	0.4005 0.3534	0.3414 0.3248	0.3310 0.3207	0.3200	0.3226	Ave		0.3393				8.1		30.0			
Dibromomethane	0.1569 0.1803	0.1560 0.1655	0.1577 0.1674	0.1565	0.1595	Ave		0.1625				5.2		15.0			
1,4-Dioxane	++++ 0.0033	++++ 0.0028	0.0020 0.0030	0.0026	0.0026	Lin2	-0.102	0.0030							0.9940		0.9900
Dichlorobromomethane	0.3117 0.3719	0.2828 0.3522	0.2916 0.3585	0.2990	0.3150	Lin2	-0.045	0.3335							0.9900		0.9900
2-Chloroethyl vinyl ether	0.0926 0.1378	0.0845 0.1253	0.1001 0.1311	0.1035	0.1117	Lin1	-0.080	0.1296							0.9970		0.9900
cis-1,3-Dichloropropene	1.7253 2.1274	1.6164 2.0406	1.6027 2.0309	1.7091	1.8225	Ave		1.8344				11.2		15.0			
4-Methyl-2-pentanone (MIBK)	0.3310 0.3350	0.2879 0.2876	0.2773 0.2799	0.2803	0.2837	Ave		0.2953				8.0		15.0			
Toluene	++++ 1.3808	1.5166 1.2491	1.4012 1.1728	1.3005	1.2652	Ave		1.3266				8.6		30.0			
trans-1,3-Dichloropropene	0.2709 0.4047	0.2723 0.3876	0.2877 0.3921	0.3117	0.3326	Lin1	-0.245	0.3902							0.9980		0.9900
Ethyl methacrylate	1.1775 1.8446	1.1807 1.7221	1.3282 1.7266	1.4391	1.5454	Lin1	-1.019	1.7355							0.9980		0.9900
1,1,2-Trichloroethane	0.2782 0.2536	0.2364 0.2340	0.2317 0.2300	0.2302	0.2302	Ave		0.2405				7.1		15.0			
Tetrachloroethene	1.1794 1.0931	1.0035 1.0243	1.0146 0.9721	1.0162	0.9898	Ave		1.0366				6.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,3-Dichloropropane	2.0838 2.1247	1.9829 1.9481	1.9230 1.9182	1.9170	1.9665	Ave		1.9830				4.0		15.0			
Methyl n-butyl ketone (MNBK)	0.7791 1.0290	0.8101 0.8972	0.8128 0.8767	0.8181	0.8831	Ave		0.8633				9.2		15.0			
Chlorodibromomethane	0.7119 1.0577	0.7289 1.0454	0.7430 1.0722	0.7970	0.8644	Lin1	-0.749	1.0541							0.9970		0.9900
1,2-Dibromoethane	1.0197 1.1140	0.9236 1.0315	0.9233 1.0231	0.9563	0.9932	Ave		0.9981				6.4		15.0			
1-Chlorohexane	2.4295 2.1158	2.0093 1.9735	1.9831 1.7814	1.8949	1.9345	Ave		2.0153				9.6		15.0			
Chlorobenzene	4.1527 3.8066	3.7233 3.5492	3.5867 3.2889	3.4311	3.5022	Ave		3.6301			0.3000	7.3		15.0			
1,1,1,2-Tetrachloroethane	0.9788 1.1951	0.8817 1.1574	0.9391 1.1412	0.9497	1.0287	Lin1	-0.480	1.1471							0.9980		0.9900
Ethylbenzene	2.3076 2.1678	1.9808 2.0341	1.9870 1.8716	1.9682	1.9558	Ave		2.0341				6.8		30.0			
m-Xylene & p-Xylene	3.3572 2.6200	2.5188 2.4694	2.4729 2.2747	2.3976	2.4362	Ave		2.5684				13.0		15.0			
o-Xylene	2.7127 2.5726	2.3490 2.4104	2.3681 2.2278	2.3112	2.3447	Ave		2.4120				6.5		15.0			
Styrene	3.9232 4.2420	3.4835 3.9767	3.6157 3.6645	3.6395	3.7840	Lin2	-0.072	3.8082							0.9950		0.9900
Bromoform	+++++ 0.6034	+++++ 0.6142	0.3661 0.6614	0.4034	0.4538	Lin1	-2.125	0.6534			0.1000				0.9970		0.9900
Isopropylbenzene	4.7239 4.2627	4.0898 3.9907	4.0459 3.4872	3.9328	3.8519	Ave		4.0481				8.7		15.0			
Cyclohexanone	0.0412 0.0525	0.0380 0.0457	0.0373 0.0480	0.0400	0.0432	Ave		0.0432				12.1		15.0			
Bromobenzene	1.0111 0.9435	0.8685 0.8925	0.8605 0.8220	0.8366	0.8397	Ave		0.8843				7.2		15.0			
1,1,2,2-Tetrachloroethane	0.9837 1.0340	0.9279 0.9575	0.9053 0.9216	0.9058	0.9008	Ave		0.9421			0.3000	5.0		15.0			
trans-1,4-Dichloro-2-butene	0.1984 0.2703	0.2036 0.2523	0.2081 0.2526	0.2205	0.2247	Lin1	-0.106	0.2537							0.9980		0.9900
1,2,3-Trichloropropane	0.2658 0.2835	0.2608 0.2601	0.2422 0.2535	0.2503	0.2476	Ave		0.2580				5.0		15.0			
N-Propylbenzene	1.1759 1.1804	1.0669 1.1254	1.1010 0.9941	1.0713	1.0423	Ave		1.0947				5.9		15.0			
2-Chlorotoluene	1.0253 0.9900	0.9285 0.9407	0.9298 0.8423	0.8936	0.8969	Ave		0.9309				6.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,3,5-Trimethylbenzene	3.5668 3.5047	3.2497 3.3099	3.2924 2.9129	3.1816	3.1240	Ave		3.2678				6.4		15.0			
4-Chlorotoluene	0.9814 1.0064	0.9202 0.9493	0.9387 0.8464	0.9246	0.8997	Ave		0.9333				5.3		15.0			
tert-Butylbenzene	3.1422 3.0425	2.8179 2.8630	2.8075 2.5065	2.7492	2.7153	Ave		2.8305				6.9		15.0			
1,2,4-Trimethylbenzene	3.7289 3.5694	3.2939 3.3563	3.3550 2.9181	3.2431	3.1953	Ave		3.3325				7.3		15.0			
sec-Butylbenzene	0.9443 0.9544	0.8683 0.9153	0.8586 0.8062	0.8500	0.8494	Ave		0.8808				5.9		15.0			
1,3-Dichlorobenzene	1.9961 1.8334	1.7912 1.7303	1.7742 1.5431	1.7007	1.6603	Ave		1.7537				7.6		15.0			
4-Isopropyltoluene	4.1163 3.9210	3.6082 3.6956	3.6559 3.1180	3.5150	3.4821	Ave		3.6390				8.2		15.0			
1,4-Dichlorobenzene	2.0981 1.8644	1.8383 1.7447	1.8198 1.5441	1.6893	1.6877	Ave		1.7858				9.1		15.0			
n-Butylbenzene	4.1317 3.8195	3.5640 3.5376	3.7227 2.8917	3.5230	3.4327	Ave		3.5778				9.9		15.0			
1,2-Dichlorobenzene	1.8515 1.7571	1.7397 1.6350	1.6706 1.4973	1.5957	1.5903	Ave		1.6672				6.7		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.1696	0.1326 0.1689	0.1184 0.1769	0.1180	0.1293	Lin1	-0.222	0.1729							0.9950		0.9900
1,2,4-Trichlorobenzene	1.4240 1.3244	1.2783 1.2165	1.2599 1.0979	1.2067	1.1916	Ave		1.2499				7.8		15.0			
Hexachlorobutadiene	0.7758 0.6785	0.6295 0.6509	0.6626 0.5736	0.6100	0.6012	Ave		0.6478				9.6		15.0			
Naphthalene	3.4076 3.2794	3.1821 2.9862	3.0083 2.7914	2.9600	2.9712	Ave		3.0733				6.5		15.0			
1,2,3-Trichlorobenzene	1.4022 1.2382	1.3120 1.1432	1.2472 1.0546	1.1589	1.1388	Ave		1.2119				9.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-422928/12	G2_5567.D
Level 2	STD02 280-422928/13	G2_5568.D
Level 3	STD05 280-422928/14	G2_5569.D
Level 4	STD10 280-422928/15	G2_5570.D
Level 5	STD20 280-422928/16	G2_5571.D
Level 6	STD50 280-422928/17	G2_5572.D
Level 7	STD100 280-422928/18	G2_5573.D
Level 8	STD200 280-422928/19	G2_5574.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Lin1	10255 537900	17937 1074178	43031 2078686	85047	164871	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Chloromethane	FB	Ave	12066 485662	21154 971269	47296 1926415	90251	174462	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Vinyl chloride	FB	Ave	10175 476408	18397 933677	42528 1833091	87027	170664	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Bromomethane	FB	Qua	++++ 196483	11171 306851	23418 385653	43214	65526	++++ 50.0	2.00 100	5.00 200	10.0	20.0
Chloroethane	FB	Qua	++++ 194512	10421 296546	22761 430430	41728	67996	++++ 50.0	2.00 100	5.00 200	10.0	20.0
Dichlorofluoromethane	FB	Ave	16895 765342	32308 1511755	75444 2892780	147154	287794	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Trichlorofluoromethane	FB	Ave	12977 615780	23971 1236420	57263 2388552	113821	226136	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Ethyl ether	FB	Ave	6521 332169	13602 651320	31950 1303620	63488	127866	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Acrolein	FB	Ave	9500 642477	20816 1219808	55078 2521798	112872	226748	10.00 500	20.0 1000	50.0 2000	100.0	200
1,1-Dichloroethene	FB	Ave	7079 356092	13929 706995	34597 1395202	68375	133639	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Freon 113	FB	Ave	5364 282591	11455 569480	27053 1134327	54763	107932	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Acetone	FB	Lin2	++++ 434070	28559 808397	49160 1628295	84959	158795	++++ 200	8.00 400	20.0 800	40.0	80.0
Iodomethane	FB	Ave	10839 556226	21970 1123877	53274 2244662	105745	212835	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Carbon disulfide	FB	Ave	30951 1348401	54996 2697897	130720 5311216	257038	502235	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Allyl chloride	FB	Ave	15294 652342	28212 1307642	64270 2570176	125841	247076	1.00 50.0	2.00 100	5.00 200	10.0	20.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methyl acetate	FB	Lin1	20909 587224	32420 1101425	57766 2226502	96254	215460	2.00 100	4.00 200	10.0 400	20.0	40.0
Methylene Chloride	FB	Lin2	18313 402310	24526 798639	47277 1588674	85951	161168	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Ave	6737 344141	14235 650527	34153 1421130	63165	127274	10.0 500	20.0 1000	50.0 2000	100	200
Acrylonitrile	FB	Ave	++++ 1395434	38414 2676399	113774 5472912	242085	499860	++++ 500	20.0 1000	50.0 2000	100	200
Methyl tert-butyl ether	FB	Ave	19636 973186	39499 1913757	93559 3919904	186508	370524	1.00 50.0	2.00 100	5.00 200	10.0	20.0
trans-1,2-Dichloroethene	FB	Ave	6936 379868	14631 759608	35863 1511077	71872	142276	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Hexane	CBNZ d5	Ave	15865 721493	29510 1447366	71612 2809334	141698	274550	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,1-Dichloroethane	FB	Ave	14802 720698	28397 1439619	70169 2861204	138181	277390	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Vinyl acetate	FB	Lin2	++++ 1298209	42083 2625473	105773 5493653	220060	456991	++++ 100	4.00 200	10.0 400	20.0	40.0
2,2-Dichloropropane	FB	Lin2	++++ 592715	++++ 1131406	75700 2345930	138035	244101	++++ 50.0	++++ 100	5.00 200	10.0	20.0
cis-1,2-Dichloroethene	FB	Ave	8344 416481	15736 839065	40170 1673720	79015	160030	1.00 50.0	2.00 100	5.00 200	10.0	20.0
2-Butanone (MEK)	FB	Lin1	21083 685303	31633 1327971	59448 2740394	115374	230140	4.00 200	8.00 400	20.0 800	40.0	80.0
Chlorobromomethane	FB	Lin2	2390 169197	6071 338622	15023 699149	32100	65273	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Tetrahydrofuran	FB	Ave	++++ 253665	10168 482864	19166 1016556	46558	93398	++++ 100	4.00 200	10.0 400	20.0	40.0
sec-Butyl Alcohol	FB	Lin1	++++ 930345	26765 1915700	57755 4298572	127496	296173	++++ 1500	60.0 3000	150 6000	300	600
Chloroform	FB	Ave	12326 617483	24898 1239456	58447 2463025	118893	236310	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,1,1-Trichloroethane	FB	Ave	9591 510687	19223 1055959	47085 2117149	96269	192379	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Cyclohexane	FB	Lin2	25044 825855	40550 1645379	88905 3226095	168620	319791	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Carbon tetrachloride	FB	Ave	7970 423159	14477 888164	36924 1812348	75488	153026	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,1-Dichloropropene	FB	Ave	11025 541770	20895 1087504	52281 2142360	103305	206986	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Benzene	FB	Ave	35894 1615841	67851 3205619	163017 6257356	318832	627751	1.00 50.0	2.00 100	5.00 200	10.0	20.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	8646 453568	17803 900929	43137 1819672	87195	173394	1.00 50.0	2.00 100	5.00 200	10.0	20.0
n-Heptane	FB	Ave	18012 728968	34110 1456000	76273 2781539	142723	282592	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Isobutyl alcohol	FB	Ave	10875 414875	19562 828900	45166 1592892	86806	164381	25.0 1250	50.0 2500	125 5000	250	500
Trichloroethene	FB	Ave	7571 376716	15123 760242	37255 1495884	73353	143824	1.00 50.0	2.00 100	5.00 200	10.0	20.0
2-Pentanone	FB	Ave	23451 1314884	51940 2374065	107005 4785081	211256	484186	4.00 200	8.00 400	20.0 800	40.0	80.0
Methylcyclohexane	FB	Ave	15607 657035	27823 1311541	67670 2539330	132035	255152	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,2-Dichloropropane	FB	Ave	9606 414921	17754 835144	41983 1666054	81596	162485	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Dibromomethane	FB	Ave	3763 211735	8111 425611	20000 869570	39921	80355	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,4-Dioxane	FB	Lin2	++++ 76674	++++ 142217	5122 313886	13012	26574	++++ 1000	++++ 2000	100 4000	200	400
Dichlorobromomethane	FB	Lin2	7477 436670	14707 905748	36992 1862322	76251	158687	1.00 50.0	2.00 100	5.00 200	10.0	20.0
2-Chloroethyl vinyl ether	FB	Lin1	2221 161819	4394 322113	12696 680881	26390	56290	1.00 50.0	2.00 100	5.00 200	10.0	20.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	9042 557517	18380 1158371	45095 2365386	95654	200285	1.00 50.0	2.00 100	5.00 200	10.0	20.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	31760 1573226	59894 2958112	140721 5815438	285917	571633	4.00 200	8.00 400	20.0 800	40.0	80.0
Toluene	FB	Ave	++++ 1621203	78876 3212019	177738 6092595	331655	637342	++++ 50.0	2.00 100	5.00 200	10.0	20.0
trans-1,3-Dichloropropene	FB	Lin1	6498 475199	14161 996600	36493 2036806	79477	167547	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Ethyl methacrylate	CBNZ d5	Lin1	6171 483400	13426 977584	37372 2010884	80539	169839	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,1,2-Trichloroethane	FB	Ave	6674 297791	12296 601697	29393 1194762	58709	115940	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Tetrachloroethene	CBNZ d5	Ave	6181 286466	11411 581458	28547 1132222	56875	108781	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,3-Dichloropropane	CBNZ d5	Ave	10921 556813	22547 1105884	54108 2234108	107285	216113	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	16333 1078728	36848 2037125	91480 4084167	183154	388193	4.00 200	8.00 400	20.0 800	40.0	80.0
Chlorodibromomethane	CBNZ d5	Lin1	3731 277197	8288 593460	20907 1248769	44607	94991	1.00 50.0	2.00 100	5.00 200	10.0	20.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Ave	5344 291945	10502 585525	25979 1191586	53519	109147	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1-Chlorohexane	CBNZ d5	Ave	12733 554495	22847 1120297	55800 2074813	106051	212598	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Chlorobenzene	CBNZ d5	Ave	21764 997601	42335 2014758	100920 3830480	192026	384882	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Lin1	5130 313193	10026 657041	26423 1329078	53152	113047	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Ethylbenzene	CBNZ d5	Ave	12094 568104	22523 1154700	55908 2179843	110155	214937	1.00 50.0	2.00 100	5.00 200	10.0	20.0
m-Xylene & p-Xylene	CBNZ d5	Ave	17595 686629	28641 1401796	69581 2649270	134182	267732	1.00 50.0	2.00 100	5.00 200	10.0	20.0
o-Xylene	CBNZ d5	Ave	14217 674191	26710 1368278	66632 2594627	129348	257674	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Styrene	CBNZ d5	Lin2	20561 1111706	39610 2257425	101735 4267971	203688	415856	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Bromoform	CBNZ d5	Lin1	++++ 158131	++++ 348685	10302 770351	22574	49868	++++ 50.0	++++ 100	5.00 200	10.0	20.0
Isopropylbenzene	DCBd 4	Ave	38686 1740849	72045 3513631	175337 6445108	340888	674914	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Cyclohexanone	CBNZ d5	Ave	8634 549837	17292 1038217	41941 2235325	89513	189809	40.0 2000	80.0 4000	200 8000	400	800
Bromobenzene	DCBd 4	Ave	8280 385321	15300 785758	37290 1519189	72514	147124	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	8056 422260	16346 843045	39235 1703314	78516	157839	1.00 50.0	2.00 100	5.00 200	10.0	20.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin1	1625 110407	3587 222153	9017 466804	19109	39379	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,2,3-Trichloropropane	DCBd 4	Ave	2177 115771	4594 229033	10497 468540	21698	43386	1.00 50.0	2.00 100	5.00 200	10.0	20.0
N-Propylbenzene	DCBd 4	Ave	9630 482060	18794 990877	47714 1837255	92861	182628	1.00 50.0	2.00 100	5.00 200	10.0	20.0
2-Chlorotoluene	DCBd 4	Ave	8397 404315	16357 828219	40293 1556772	77456	157147	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	29210 1431306	57247 2914221	142684 5383606	275778	547370	1.00 50.0	2.00 100	5.00 200	10.0	20.0
4-Chlorotoluene	DCBd 4	Ave	8037 410996	16210 835778	40680 1564412	80143	157644	1.00 50.0	2.00 100	5.00 200	10.0	20.0
tert-Butylbenzene	DCBd 4	Ave	25733 1242523	49640 2520741	121669 4632609	238297	475758	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	30538 1457700	58024 2955003	145396 5393303	281106	559868	1.00 50.0	2.00 100	5.00 200	10.0	20.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 19:45 Calibration End Date: 07/19/2018 22:08 Calibration ID: 33082

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Ave	7733 389765	15295 805832	37208 1489961	73679	148831	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,3-Dichlorobenzene	DCBd 4	Ave	16347 748741	31554 1523464	76888 2851939	147416	290913	1.00 50.0	2.00 100	5.00 200	10.0	20.0
4-Isopropyltoluene	DCBd 4	Ave	33710 1601310	63561 3253776	158438 5762854	304672	610120	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,4-Dichlorobenzene	DCBd 4	Ave	17182 761390	32383 1536134	78867 2853925	146423	295705	1.00 50.0	2.00 100	5.00 200	10.0	20.0
n-Butylbenzene	DCBd 4	Ave	33836 1559855	62782 3114622	161330 5344431	305369	601471	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,2-Dichlorobenzene	DCBd 4	Ave	15163 717602	30646 1439553	72401 2767396	138309	278654	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	+++++ 69266	2336 148751	5132 326880	10224	22658	+++++ 50.0	2.00 100	5.00 200	10.0	20.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	11662 540872	22519 1071020	54600 2029255	104597	208787	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Hexachlorobutadiene	DCBd 4	Ave	6353 277104	11089 573076	28717 1060158	52870	105346	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Naphthalene	DCBd 4	Ave	27906 1339293	56055 2629196	130373 5159109	256569	520606	1.00 50.0	2.00 100	5.00 200	10.0	20.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	11483 505655	23112 1006545	54052 1949102	100450	199542	1.00 50.0	2.00 100	5.00 200	10.0	20.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD  
Qua = Quadratic ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 23:30 Calibration End Date: 07/20/2018 01:52 Calibration ID: 33084

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-422928/21	G2_5578.D
Level 2	STD02 280-422928/22	G2_5579.D
Level 3	STD05 280-422928/23	G2_5580.D
Level 4	STD10 280-422928/24	G2_5581.D
Level 5	STD20 280-422928/25	G2_5582.D
Level 6	ICIS 280-422928/26	G2_5583.D
Level 7	STD100 280-422928/27	G2_5584.D
Level 8	STD200 280-422928/28	G2_5585.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	++++ 0.0046	0.0089 0.0041	0.0066 0.0035	0.0049	0.0041	Qua	0.4521	0.0047	0						0.9990		0.9900
Ethanol	++++ 0.1626	++++ 0.1778	0.1254 0.1889	0.1514	0.1790	Lin2	-17.10	0.1825							0.9960		0.9900
Propene oxide	++++ 0.0453	0.0500 0.0448	0.0484 0.0357	0.0479	0.0547	Ave		0.0467				12.5		15.0			
2-Propanol	++++ 0.8100	0.5661 0.8871	0.7121 0.9187	0.7637	0.8610	Lin1	-8.917	0.9011							0.9980		0.9900
Acetonitrile	++++ 0.0315	0.0185 0.0375	0.0252 0.0406	0.0354	0.0372	Lin2	-0.400	0.0373							0.9900		0.9900
Di-isopropyl ether (DIPE)	0.2139 0.2686	0.2498 0.2784	0.2420 0.2875	0.2457	0.2802	Ave		0.2582				9.6		15.0			
Chloroprene	0.3646 0.4864	0.3933 0.5124	0.4238 0.5212	0.4322	0.4912	Ave		0.4531				12.8		15.0			
Tert-butyl ethyl ether	0.8236 0.8346	0.8133 0.8787	0.7735 0.8978	0.7711	0.8810	Ave		0.8342				5.8		15.0			
Ethyl acetate	0.2631 0.2420	0.2571 0.2889	0.2621 0.2822	0.2334	0.2698	Ave		0.2623				7.1		15.0			
Propionitrile	++++ 0.0358	0.0251 0.0450	0.0289 0.0446	0.0318	0.0397	Lin1	-0.632	0.0438							0.9940		0.9900
Methacrylonitrile	0.1146 0.1665	0.1522 0.1773	0.1579 0.1675	0.1651	0.1944	Ave		0.1619				14.2		15.0			
Tert-amyl methyl ether	0.6863 0.7166	0.7061 0.7699	0.6731 0.7931	0.6697	0.7628	Lin1	-0.224	0.7749							0.9980		0.9900
n-Butanol	++++ 0.3167	++++ 0.3886	0.1679 0.4332	0.2145	0.2919	Lin1	-45.21	0.4182							0.9920		0.9900
Methyl methacrylate	++++ 0.0720	0.0525 0.0806	0.0598 0.0810	0.0635	0.0781	Lin2	-0.110	0.0766							0.9930		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/19/2018 23:30 Calibration End Date: 07/20/2018 01:52 Calibration ID: 33084

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
2-Nitropropane	0.0323 0.0331	0.0332 0.0443	0.0352 ++++	0.0324	0.0334	Ave		0.0348				12.3		15.0			
Tetrahydrothiophene	++++ 0.0783	++++ 0.0878	0.0643 0.0926	0.0662	0.0828	Lin2	-0.266	0.0872							0.9940		0.9900
cis-1,4-Dichloro-2-butene	++++ 0.1754	0.1359 0.1985	0.1485 0.2019	0.1498	0.1831	Lin2	-0.236	0.1854							0.9910		0.9900
1,2,3-Trimethylbenzene	++++ 3.5429	3.4280 3.5927	3.3828 3.4389	3.3619	3.7040	Ave		3.4930				3.6		15.0			
1,3,5-Trichlorobenzene	1.5064 1.4650	1.4741 1.4947	1.4238 1.4191	1.4502	1.5589	Ave		1.4740				3.1		15.0			
Dibromofluoromethane (Surr)	++++ 0.2416	++++ 0.2494	0.2699 0.2539	0.2614	0.2634	Ave		0.2566				4.0		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.2950	++++ 0.3039	0.3570 0.3050	0.3272	0.3360	Ave		0.3207				7.4		15.0			
Toluene-d8 (Surr)	++++ 4.7607	7.5946 4.7651	5.8704 4.6714	5.5979	5.2234	Lin2	5.7192	4.7746							0.9990		0.9900
4-Bromofluorobenzene (Surr)	++++ 1.1721	++++ 1.1567	1.3788 1.1460	1.2948	1.2419	Ave		1.2317				7.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 23:30 Calibration End Date: 07/20/2018 01:52 Calibration ID: 33084

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-422928/21	G2_5578.D
Level 2	STD02 280-422928/22	G2_5579.D
Level 3	STD05 280-422928/23	G2_5580.D
Level 4	STD10 280-422928/24	G2_5581.D
Level 5	STD20 280-422928/25	G2_5582.D
Level 6	ICIS 280-422928/26	G2_5583.D
Level 7	STD100 280-422928/27	G2_5584.D
Level 8	STD200 280-422928/28	G2_5585.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Ethylene oxide	FB	Qua	++++ 554347	42912 965597	77979 1589166	116172	178011	++++ 5000	200 10000	500 20000	1000	2000
Ethanol	TBAd 9	Lin2	++++ 229119	++++ 558605	19821 1103942	45607	102809	++++ 3000	++++ 6000	300 12000	600	1200
Propene oxide	FB	Ave	++++ 5453790	240348 10560008	573563 16403016	1138869	2369097	++++ 5000	200 10000	500 20000	1000	2000
2-Propanol	TBAd 9	Lin1	++++ 190204	5822 464391	18766 895014	38354	82445	++++ 500	20.0 1000	50.0 2000	100	200
Acetonitrile	FB	Lin2	++++ 378388	8906 883247	29881 1866739	84273	160994	++++ 500	20.0 1000	50.0 2000	100	200
Di-isopropyl ether (DIPE)	FB	Ave	5341 323134	12003 656121	28701 1320413	58420	121319	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Chloroprene	FB	Ave	9103 585188	18901 1207765	50271 2393999	102771	212693	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Tert-butyl ethyl ether	FB	Ave	20561 1004115	39085 2070995	91754 4123948	183357	381524	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Ethyl acetate	FB	Ave	13134 582420	24712 1361703	62181 2592678	111009	233635	2.00 100	4.00 200	10.0 400	20.0	40.0
Propionitrile	FB	Lin1	++++ 430208	12057 1060833	34278 2048966	75623	171762	++++ 500	20.0 1000	50.0 2000	100	200
Methacrylonitrile	FB	Ave	28607 2003573	73160 4179084	187298 7695549	392556	841671	10.0 500	20.0 1000	50.0 2000	100	200
Tert-amyl methyl ether	FB	Lin1	17132 862149	33933 1814513	79848 3642866	159232	330303	1.00 50.0	2.00 100	5.00 200	10.0	20.0
n-Butanol	TBAd 9	Lin1	++++ 185932	++++ 508607	11064 1054992	26935	69869	++++ 1250	++++ 2500	125 5000	250	500
Methyl methacrylate	FB	Lin2	++++ 173273	5050 379763	14192 744132	30197	67658	++++ 100	4.00 200	10.0 400	20.0	40.0
2-Nitropropane	FB	Ave	1612 79750	3190 208979	8345 ++++	15402	28942	2.00 100	4.00 200	10.0 ++++	20.0	40.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422928

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/19/2018 23:30 Calibration End Date: 07/20/2018 01:52 Calibration ID: 33084

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Tetrahydrothiophene	CBNZ d5	Lin2	+++++ 41355	+++++ 91952	3362 190154	6834	15893	+++++ 100	+++++ 200	10.0 400	20.0	40.0
cis-1,4-Dichloro-2-butene	DCBd 4	Lin2	+++++ 141240	4392 320217	11887 630032	23851	54423	+++++ 100	4.00 200	10.0 400	20.0	40.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	+++++ 1426873	55408 2897137	135411 5364948	267592	550534	+++++ 50.0	2.00 100	5.00 200	10.0	20.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	12595 590009	23827 1205355	56995 2213872	115426	231707	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Dibromofluoromethane (Surr)	FB	Ave	+++++ 290690	+++++ 587733	32021 1166077	62155	114083	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	+++++ 354978	+++++ 716361	42352 1400997	77801	145494	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0
Toluene-d8 (Surr)	CBNZ d5	Lin2	+++++ 1257177	79680 2496492	153501 4796459	289045	501003	+++++ 50.0	2.00 100	5.00 200	10.0	20.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	+++++ 472054	+++++ 932754	55193 1787911	103057	184589	+++++ 50.0	+++++ 100	5.00 200	10.0	20.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD  
Qua = Quadratic ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 423317

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) Y

Calibration Start Date: 07/23/2018 18:23 Calibration End Date: 07/23/2018 20:46 Calibration ID: 33107

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-423317/10	G2_5688.D
Level 2	STD02 280-423317/11	G2_5689.D
Level 3	STD05 280-423317/12	G2_5690.D
Level 4	STD10 280-423317/13	G2_5691.D
Level 5	STD20 280-423317/14	G2_5692.D
Level 6	STD50 280-423317/15	G2_5693.D
Level 7	STD100 280-423317/16	G2_5694.D
Level 8	STD200 280-423317/17	G2_5695.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7	LVL 8														
Dichlorodifluoromethane	0.4420 0.4596	0.4208 0.4346	0.3578 0.4340	0.3606	0.3635	Lin1	-0.101	0.4330							0.9970		0.9900
Chloromethane	++++ 0.4067	0.4518 0.3793	0.3705 0.3851	0.3692	0.3567	Ave		0.3885			0.1000	8.2		15.0			
Vinyl chloride	0.3997 0.3949	0.3904 0.3770	0.3626 0.3735	0.3608	0.3586	Ave		0.3772				4.3		30.0			
Bromomethane	0.1586 0.1554	0.1354 0.1513	0.1335 0.1506	0.1401	0.1398	Ave		0.1456				6.6		15.0			
Chloroethane	++++ 0.1544	0.1504 0.1527	0.1401 0.1513	0.1443	0.1412	Ave		0.1478				3.9		15.0			
Dichlorofluoromethane	0.7218 0.7079	0.6976 0.6781	0.6601 0.6855	0.6698	0.6767	Ave		0.6872				3.0		15.0			
Trichlorofluoromethane	0.5314 0.5330	0.4876 0.5135	0.4735 0.5230	0.4809	0.4960	Ave		0.5049				4.6		15.0			
Acetone	0.1417 0.0894	0.1124 0.0879	0.0854 0.0968	0.0949	0.0941	Lin2	0.2014	0.0885							0.9940		0.9900
Methyl ethyl ketone (MEK)	++++ 0.1388	0.1538 0.1403	0.1249 0.1569	0.1290	0.1459	Lin1	-0.265	0.1497							0.9960		0.9900
4-Methyl-2-pentanone (MIBK)	0.2262 0.3091	0.2385 0.3094	0.2521 0.3218	0.2767	0.3073	Ave		0.2801				13.2		15.0			
Methyl n-butyl ketone (MNBK)	0.5604 0.9591	0.6348 0.9626	0.7360 1.0390	0.8201	0.9395	Lin2	-1.766	0.9355							0.9910		0.9900
Cyclohexanone	++++ 0.0469	0.0295 0.0482	0.0324 0.0543	0.0370	0.0443	Lin1	-3.170	0.0518							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 423317

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/23/2018 18:23 Calibration End Date: 07/23/2018 20:46 Calibration ID: 33107

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-423317/10	G2_5688.D
Level 2	STD02 280-423317/11	G2_5689.D
Level 3	STD05 280-423317/12	G2_5690.D
Level 4	STD10 280-423317/13	G2_5691.D
Level 5	STD20 280-423317/14	G2_5692.D
Level 6	STD50 280-423317/15	G2_5693.D
Level 7	STD100 280-423317/16	G2_5694.D
Level 8	STD200 280-423317/17	G2_5695.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Lin1	11912 606943	21278 1135085	48131 2225228	91279	185263	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Chloromethane	FB	Ave	++++ 536992	22846 990601	49843 1974640	93445	181777	++++ 50.0	2.00 100	5.00 200	10.0	20.0
Vinyl chloride	FB	Ave	10771 521499	19739 984663	48788 1915117	91327	182716	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Bromomethane	FB	Ave	4275 205179	6846 395120	17963 772305	35462	71228	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Chloroethane	FB	Ave	++++ 203832	7605 398903	18842 775826	36514	71970	++++ 50.0	2.00 100	5.00 200	10.0	20.0
Dichlorofluoromethane	FB	Ave	19453 934742	35273 1770928	88803 3514614	169529	344838	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Trichlorofluoromethane	FB	Ave	14320 703838	24657 1341185	63702 2681507	121718	252748	1.00 50.0	2.00 100	5.00 200	10.0	20.0
Acetone	FB	Lin2	15280 472304	22734 918742	45945 1984876	96108	191789	4.00 200	8.00 400	20.0 800	40.0	80.0
Methyl ethyl ketone (MEK)	FB	Lin1	++++ 733129	31117 1465282	67206 3218131	130588	297325	++++ 200	8.00 400	20.0 800	40.0	80.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	24383 1632825	48239 3232431	135661 6599813	280110	626316	4.00 200	8.00 400	20.0 800	40.0	80.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Lin2	13151 1118480	27921 2207348	86622 4690184	181200	422100	4.00 200	8.00 400	20.0 800	40.0	80.0
Cyclohexanone	CBNZ d5	Lin1	++++ 546407	12982 1104965	38107 2451040	81837	199041	++++ 2000	80.0 4000	200 8000	400	800

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-421403/10	MS9_2368.D
Level 2	STD1 280-421403/11	MS9_2367.D
Level 3	STD2 280-421403/12	MS9_2366.D
Level 4	STD5 280-421403/13	MS9_2365.D
Level 5	STD10 280-421403/14	MS9_2364.D
Level 6	STD30 280-421403/15	MS9_2363.D
Level 7	STD60 280-421403/16	MS9_2362.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	+++++ 0.5878	0.7351 0.5849	0.6156	0.6764	0.6641	Ave		0.6440				9.1		15.0			
Chloromethane	+++++ 0.5152	0.7235 0.4767	0.6799	0.6576	0.6056	Lin1	0.3797	0.4927			0.1000				0.9930		0.9900
Vinyl chloride	+++++ 0.5633	0.7302 0.5213	0.7317	0.7119	0.6469	Ave		0.6509				13.9		30.0			
Bromomethane	0.5842 0.3706	0.4800 0.3480	0.4621	0.4460	0.4124	Lin2	0.0594	0.3994							0.9910		0.9900
Chloroethane	0.4457 0.2967	0.3679 0.2741	0.3697	0.3681	0.3303	Lin1	0.0849	0.2875							0.9930		0.9900
Dichlorofluoromethane	1.2079 0.7280	0.9315 0.6754	0.9100	0.9027	0.8166	Lin2	0.1330	0.7832							0.9900		0.9900
Trichlorofluoromethane	1.2398 0.7350	0.9504 0.6928	0.9243	0.9034	0.8159	Lin2	0.1408	0.7903							0.9920		0.9900
Ethyl ether	+++++ 0.1516	0.2116 0.1343	0.1856	0.1792	0.1704	Lin2	0.0632	0.1526							0.9910		0.9900
Acrolein	0.0232 0.0168	0.0209 0.0150	0.0202	0.0190	0.0180	Lin2	0.0190	0.0176							0.9910		0.9900
Freon 113	0.5654 0.3777	0.4922 0.3471	0.4588	0.4411	0.4198	Lin2	0.0534	0.4036							0.9910		0.9900
1,1-Dichloroethene	0.5763 0.3715	0.4795 0.3478	0.4491	0.4361	0.4117	Lin2	0.0580	0.3959							0.9930		0.9900
Acetone	0.1714 0.0282	0.0750 0.0249	0.0526	0.0371	0.0321	Lin2	0.1739	0.0280							0.9900		0.9900
Iodomethane	+++++ 0.6332	0.8335 0.5822	0.7738	0.7293	0.6989	Ave		0.7085				12.9		15.0			
Methyl acetate	0.1532 0.0712	0.1033 0.0648	0.0909	0.0848	0.0791	Lin2	0.0486	0.0745							0.9930		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.9344 0.5886	0.7524 0.5457	0.6962	0.6865	0.6450	Lin2	0.0997	0.6189							0.9940		0.9900
Carbon disulfide	2.1142 1.4094	1.7301 1.2901	1.6740	1.6121	1.5383	Lin2	0.2031	1.4736							0.9940		0.9900
Tert-butyl alcohol (2-methyl-2-propanol)	0.0137 0.0103	0.0128 0.0092	0.0116	0.0117	0.0108	Ave		0.0114				13.3		15.0			
Methylene Chloride	++++ 0.3076	0.4669 0.2772	0.4029	0.3654	0.3384	Lin2	0.1705	0.3072							0.9930		0.9900
Methyl tert-butyl ether	0.6820 0.4774	0.6170 0.4317	0.5677	0.5523	0.5245	Lin2	0.0592	0.5065							0.9900		0.9900
trans-1,2-Dichloroethene	0.6079 0.3906	0.5124 0.3552	0.4783	0.4521	0.4275	Lin2	0.0633	0.4137							0.9910		0.9900
Acrylonitrile	0.0512 0.0323	0.0419 0.0290	0.0377	0.0383	0.0368	Lin2	0.0542	0.0342							0.9910		0.9900
Hexane	3.5952 2.3583	2.9768 2.1566	2.8238	2.7603	2.6487	Lin2	0.3497	2.5010							0.9920		0.9900
Vinyl acetate	0.3243 0.2444	0.2991 0.2260	0.2682	0.2808	0.2635	Ave		0.2723				12.1		15.0			
1,1-Dichloroethane	0.9785 0.6090	0.8183 0.5616	0.7212	0.7182	0.6708	Lin2	0.1074	0.6458			0.1000				0.9920		0.9900
Methyl ethyl ketone (MEK)	0.1143 0.0479	0.0737 0.0441	0.0623	0.0593	0.0547	Lin2	0.0782	0.0507							0.9920		0.9900
sec-Butyl Alcohol	++++ 1.0272	1.2230 0.9147	1.1685	1.1219	1.1269	Ave		1.0970				10.0		15.0			
2,2-Dichloropropane	++++ 0.6182	0.7552 0.5906	0.7057	0.6939	0.6629	Lin2	0.1396	0.6280							0.9970		0.9900
cis-1,2-Dichloroethene	++++ 0.3760	0.5205 0.3436	0.4638	0.4380	0.4113	Lin2	0.1534	0.3782							0.9940		0.9900
Tetrahydrofuran	++++ 0.0300	0.0376 0.0271	0.0403	0.0345	0.0330	Ave		0.0337				14.3		15.0			
Chloroform	0.9093 0.5770	0.7752 0.5398	0.7252	0.6771	0.6403	Lin2	0.0944	0.6221							0.9900		0.9900
Chlorobromomethane	0.2199 0.1416	0.1852 0.1280	0.1715	0.1651	0.1560	Lin2	0.0227	0.1499							0.9910		0.9900
1,1,1-Trichloroethane	1.0151 0.6509	0.8175 0.6150	0.7803	0.7530	0.7104	Lin2	0.1037	0.6864							0.9950		0.9900
Isobutyl alcohol	++++ 1.0998	1.3459 0.9742	1.2159	1.1573	1.1880	Ave		1.1635				10.6		15.0			
Cyclohexane	++++ 0.7079	0.8796 0.6507	0.8590	0.8160	0.7826	Ave		0.7826				11.3		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.8263 0.5388	0.7002 0.5124	0.6590	0.6357	0.5950	Lin2	0.0804	0.5787							0.9930		0.9900
Carbon tetrachloride	0.9329 0.6144	0.7502 0.5843	0.7181	0.6856	0.6601	Lin2	0.0922	0.6383							0.9970		0.9900
n-Heptane	0.9817 0.6262	0.7995 0.5927	0.7840	0.7468	0.7117	Lin2	0.0972	0.6770							0.9920		0.9900
Benzene	1.9746 1.2249	1.6666 1.1403	1.5263	1.4544	1.3819	Lin2	0.2126	1.3239							0.9900		0.9900
1,2-Dichloroethane	0.5472 0.3088	0.4273 0.2889	0.3878	0.3589	0.3424	Lin2	0.0695	0.3287							0.9920		0.9900
Trichloroethene	0.6430 0.4020	0.5126 0.3787	0.4899	0.4765	0.4573	Lin2	0.0669	0.4304							0.9930		0.9900
2-Pentanone	++++ 0.0690	0.0942 0.0695	0.0905	0.0860	0.0885	Ave		0.0829				13.2		15.0			
Methylcyclohexane	++++ 0.5884	0.7442 0.5563	0.7279	0.6935	0.6490	Ave		0.6599				11.5		15.0			
1,2-Dichloropropane	0.4593 0.2908	0.3829 0.2674	0.3561	0.3393	0.3237	Lin2	0.0484	0.3098							0.9910		0.9900
1,4-Dioxane	++++ 0.0013	0.0016 0.0013	0.0014	0.0016	0.0015	Ave		0.0014				8.5		15.0			
Dibromomethane	0.2097 0.1289	0.1642 0.1182	0.1602	0.1483	0.1435	Lin2	0.0232	0.1361							0.9920		0.9900
Dichlorobromomethane	0.5441 0.3770	0.4744 0.3548	0.4428	0.4290	0.4208	Lin2	0.0469	0.4000							0.9940		0.9900
2-Chloroethyl vinyl ether	++++ 0.0923	0.1029 0.0873	0.1048	0.1036	0.1045	Ave		0.0992				7.6		15.0			
cis-1,3-Dichloropropene	2.1726 1.5651	1.8919 1.4406	1.7373	1.7631	1.7317	Ave		1.7575				13.3		15.0			
4-Methyl-2-pentanone (MIBK)	0.1248 0.0891	0.1091 0.0809	0.1041	0.1091	0.1004	Ave		0.1025				14.0		15.0			
Toluene	2.3329 1.3169	1.7937 1.2194	1.6493	1.5714	1.4818	Lin2	0.2922	1.4072							0.9920		0.9900
Ethyl methacrylate	0.9558 0.7050	0.7717 0.6372	0.7893	0.7708	0.7781	Ave		0.7725				12.6		15.0			
trans-1,3-Dichloropropene	0.4533 0.3172	0.3770 0.2967	0.3644	0.3569	0.3433	Lin2	0.0389	0.3296							0.9960		0.9900
1,1,2-Trichloroethane	0.2759 0.1650	0.2155 0.1510	0.2074	0.1969	0.1874	Lin2	0.0314	0.1766							0.9910		0.9900
Methyl n-butyl ketone (MNBK)	++++ 0.2390	0.2795 0.2139	0.2776	0.2761	0.2741	Ave		0.2600				10.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	2.2981 1.4443	1.9140 1.3611	1.7630	1.7307	1.6111	Lin2	0.2400	1.5541							0.9920		0.9900
1,3-Dichloropropane	++++ 1.0612	1.4350 0.9741	1.3226	1.2528	1.2127	Ave		1.2097				14.0		15.0			
Chlorodibromomethane	1.3582 0.9320	1.1065 0.8570	1.0201	0.9942	1.0206	Lin2	0.1275	0.9469							0.9970		0.9900
1,2-Dibromoethane	0.9659 0.6356	0.8334 0.5801	0.7290	0.7255	0.7247	Lin2	0.0956	0.6713							0.9920		0.9900
1-Chlorohexane	3.0852 2.1868	2.5179 2.0184	2.5625	2.5691	2.4307	Ave		2.4815				13.6		15.0			
Chlorobenzene	5.5291 3.3796	4.5248 3.0609	4.1011	3.9773	3.6881	Lin2	0.6306	3.5703			0.3000				0.9910		0.9900
Ethylbenzene	3.4003 2.2152	2.8003 2.0658	2.6875	2.5693	2.4672	Lin2	0.3343	2.3533							0.9930		0.9900
1,1,1,2-Tetrachloroethane	1.7808 1.2598	1.5393 1.1597	1.4628	1.4385	1.3966	Ave		1.4339				13.9		15.0			
m-Xylene & p-Xylene	7.7554 4.9029	6.0922 4.4652	5.8976	5.6810	5.3679	Lin2	0.8238	5.1274							0.9930		0.9900
o-Xylene	3.4869 2.4181	3.0860 2.2198	2.8986	2.8070	2.6295	Lin2	0.3064	2.5654							0.9920		0.9900
Styrene	4.7719 3.6050	4.2157 3.2930	4.0947	4.0892	3.8884	Ave		3.9940				11.8		15.0			
Bromoform	0.6240 0.5205	0.5590 0.4871	0.5507	0.5389	0.5523	Ave		0.5475			0.1000	7.6		15.0			
Isopropylbenzene	6.1732 3.9202	5.1282 3.6628	4.8507	4.8293	4.5629	Lin2	0.6082	4.2821							0.9900		0.9900
Cyclohexanone	++++ 0.0131	0.0160 0.0119	0.0141	0.0151	0.0139	Ave		0.0140				10.2		15.0			
1,1,2,2-Tetrachloroethane	++++ 0.3944	0.5298 0.3641	0.4984	0.4916	0.4695	Ave		0.4580			0.3000	14.1		15.0			
trans-1,4-Dichloro-2-butene	0.1755 0.1509	0.2160 0.1415	0.1720	0.1702	0.1672	Ave		0.1705				13.8		15.0			
N-Propylbenzene	++++ 1.2644	1.7056 1.2028	1.5699	1.5426	1.4235	Lin2	0.4356	1.3172							0.9920		0.9900
1,2,3-Trichloropropane	0.1846 0.1284	0.1644 0.1208	0.1640	0.1485	0.1516	Ave		0.1518				14.5		15.0			
Bromobenzene	1.5883 0.9122	1.2850 0.8576	1.1725	1.0993	1.0462	Lin1	0.3318	0.8916							0.9950		0.9900
1,3,5-Trimethylbenzene	5.0792 3.2648	4.2751 3.0539	4.0885	3.9868	3.7221	Lin2	0.4943	3.5584							0.9900		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
2-Chlorotoluene	1.6727 1.0352	1.3638 0.9751	1.3058	1.2499	1.1699	Lin2	0.1766	1.1224							0.9910		0.9900
4-Chlorotoluene	1.7044 1.0470	1.3909 0.9748	1.2941	1.2822	1.1780	Lin2	0.1838	1.1313							0.9900		0.9900
tert-Butylbenzene	4.7218 3.0673	4.0482 2.9247	3.8030	3.7624	3.4662	Lin2	0.4478	3.3532							0.9910		0.9900
1,2,4-Trimethylbenzene	++++ 3.2967	4.4135 3.0664	4.0370	3.9410	3.7150	Lin2	1.1280	3.3971							0.9920		0.9900
sec-Butylbenzene	1.6990 1.0462	1.4157 1.0124	1.3149	1.2942	1.1918	Lin2	0.1774	1.1507							0.9910		0.9900
4-Isopropyltoluene	++++ 3.9539	5.1769 3.6703	4.8862	4.8184	4.4392	Lin2	1.2484	4.1059							0.9900		0.9900
1,3-Dichlorobenzene	3.0981 1.8362	2.4844 1.7101	2.2674	2.2351	2.0511	Lin2	0.3586	1.9748							0.9910		0.9900
1,4-Dichlorobenzene	++++ 1.7737	2.4685 1.6527	2.1940	2.1592	1.9862	Lin2	0.6982	1.8238							0.9920		0.9900
n-Butylbenzene	5.6485 3.7865	4.8355 3.5232	4.6614	4.5789	4.1817	Lin2	0.5130	4.0795							0.9910		0.9900
1,2-Dichlorobenzene	2.4892 1.4904	2.0263 1.3739	1.8728	1.8095	1.6839	Lin1	0.5144	1.4400							0.9940		0.9900
1,2-Dibromo-3-Chloropropane	++++ 0.0901	0.1040 0.0824	0.0945	0.0974	0.0945	Ave		0.0938				7.7		15.0			
1,2,4-Trichlorobenzene	++++ 1.1940	1.6366 1.0756	1.5270	1.4526	1.2955	Lin1	0.8059	1.1151							0.9950		0.9900
Hexachlorobutadiene	1.6826 1.0801	1.3790 0.9931	1.3229	1.3110	1.1394	Lin2	0.1728	1.1446							0.9910		0.9900
Naphthalene	2.1749 1.3553	1.7756 1.1986	1.6321	1.6004	1.4936	Lin2	0.2403	1.4264							0.9900		0.9900
1,2,3-Trichlorobenzene	++++ 0.9668	1.3212 0.8402	1.1901	1.1608	1.0567	Lin1	0.6650	0.8842							0.9920		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD03 280-421403/10	MS9_2368.D
Level 2	STD1 280-421403/11	MS9_2367.D
Level 3	STD2 280-421403/12	MS9_2366.D
Level 4	STD5 280-421403/13	MS9_2365.D
Level 5	STD10 280-421403/14	MS9_2364.D
Level 6	STD30 280-421403/15	MS9_2363.D
Level 7	STD60 280-421403/16	MS9_2362.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	+++++ 1468425	63348 2773126	107554	287334	579287	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Lin1	+++++ 1287073	62345 2260188	118784	279367	528320	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	+++++ 1407033	62927 2471702	127834	302439	564284	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Lin2	14485 925825	41360 1649933	80736	189473	359718	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Lin1	11051 741116	31703 1299419	64593	156389	288169	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Lin2	29949 1818555	80272 3202036	158983	383482	712347	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Lin2	30739 1835969	81901 3284782	161487	383791	711733	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Lin2	+++++ 378769	18236 636685	32431	76107	148637	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Lin2	5755 420087	18047 709504	35248	80732	156678	3.00 300	10.00 600	20.0	50.0	100.0
Freon 113	FB	Lin2	14019 943456	42413 1645708	80163	187393	366232	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Lin2	14289 928116	41323 1648754	78461	185272	359102	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acetone	FB	Lin2	17002 281878	25854 471586	36779	63057	111939	1.20 120	4.00 240	8.00	20.0	40.0
Iodomethane	FB	Ave	+++++ 1581832	71827 2760406	135199	309811	609658	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin2	7597 355481	17810 614503	31759	72036	137924	0.600 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Lin2	23166 1470385	64837 2587205	121641	291658	562691	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Lin2	52419 3520653	149095 6116527	292469	684842	1341932	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Ave	3385 257310	11015 433968	20208	49915	93992	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Lin2	++++ 768431	40234 1314227	70388	155217	295196	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Lin2	16910 1192472	53171 2046913	99179	234639	457521	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Lin2	15072 975731	44154 1684284	83569	192073	372956	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Lin2	12696 807512	36142 1373408	65909	162705	320714	3.00 300	10.0 600	20.0	50.0	100
Hexane	CBNZ d5	Lin2	22970 1507997	65683 2660164	126823	300535	584833	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	16081 1221173	51556 2142819	93705	238555	459789	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Lin2	24261 1521207	70515 2662511	126006	305114	585151	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Lin2	11336 478862	25415 836883	43519	100756	190958	1.20 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 520646	21432 898456	39902	95152	195512	++++ 900	30.0 1800	60.0	150	300
2,2-Dichloropropane	FB	Lin2	++++ 1544299	65077 2800048	123300	294803	578241	++++ 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,2-Dichloroethene	FB	Lin2	++++ 939372	44852 1629016	81023	186082	358798	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 149884	6476 257292	14071	29283	57539	++++ 60.0	2.00 120	4.00	10.0	20.0
Chloroform	FB	Lin2	22544 1441428	66803 2559250	126701	287646	558568	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Lin2	5452 353775	15957 606892	29967	70151	136125	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Lin2	25167 1625942	70450 2915722	136327	319905	619751	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isobutyl alcohol	TBAd 9	Ave	++++ 464538	19655 797389	34601	81794	171759	++++ 750	25.0 1500	50.0	125	250
Cyclohexane	FB	Ave	++++ 1768372	75800 3085291	150076	346648	682731	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Lin2	20486 1345911	60341 2429591	115142	270075	519026	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Lin2	23130 1534874	64646 2770299	125466	291241	575839	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Heptane	FB	Lin2	24339 1564293	68893 2809879	136975	317240	620872	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Lin2	48957 3059833	143617 5406439	266664	617869	1205492	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane	FB	Lin2	13568 771317	36826 1369661	67757	152470	298667	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Lin2	15943 1004079	44176 1795475	85599	202411	398878	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Ave	++++ 689177	32456 1318199	63233	146091	308710	++++ 120	4.00 240	8.00	20.0	40.0
Methylcyclohexane	FB	Ave	++++ 1469814	64135 2637700	127166	294615	566143	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Lin2	11387 726473	32998 1267929	62211	144146	282400	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Ave	++++ 66365	2710 124343	4751	13170	26807	++++ 600	20.0 1200	40.0	100	200
Dibromomethane	FB	Lin2	5198 322012	14147 560191	27996	63004	125174	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Lin2	13489 941810	40883 1682075	77369	182261	367102	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Ave	++++ 230561	8865 413785	18316	44031	91174	++++ 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	13881 1000767	41746 1777016	78028	191961	382369	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	12378 890360	37612 1534697	72775	185465	350315	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Lin2	57841 3289519	154576 5781169	288157	667581	1292595	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	6107 450808	17027 785946	35449	83919	171799	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin2	11239 792467	32485 1406675	63660	151631	299495	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Lin2	6840 412096	18575 715849	36230	83642	163494	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	++++ 611298	24672 1055168	49878	120257	242072	++++ 120	4.00 240	8.00	20.0	40.0
Tetrachloroethene	CBNZ d5	Lin2	14683 923564	42233 1678936	79180	188432	355732	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	++++ 678584	31663 1201569	59401	136407	267764	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin2	8678 595991	24416 1057101	45815	108251	225356	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dibromoethane	CBNZ d5	Lin2	6171 406414	18390 715551	32742	78997	160022	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	19712 1398323	55558 2489637	115089	279723	536701	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Lin2	35326 2161104	99841 3775597	184188	433041	814343	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Lin2	21725 1416520	61788 2548163	120700	279743	544755	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	11378 805587	33965 1430515	65696	156617	308366	0.300 30.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Lin2	49550 3135171	134426 5507784	264872	618543	1185237	0.300 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Lin2	22278 1546246	68094 2738154	130184	305618	580601	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	30488 2305200	93020 4061876	183901	445230	858564	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromoform	CBNZ d5	Ave	3987 332860	12335 600833	24735	58671	121948	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Lin2	59453 4042116	171899 7078644	337648	801329	1543379	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	++++ 335988	14140 588892	25370	65715	122676	++++ 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	++++ 406679	17758 703734	34696	81568	158796	++++ 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	1690 155573	7240 273511	11973	28239	56552	0.300 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Lin2	++++ 1303765	57172 2324466	109277	255969	481490	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	1778 132354	5511 233405	11415	24640	51291	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Lin1	15297 940516	43075 1657335	81612	182400	353869	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Lin2	48917 3366355	143305 5901996	284593	661527	1259000	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Lin2	16110 1067421	45716 1884402	90895	207397	395701	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Lin2	16415 1079591	46625 1883844	90078	212761	398465	0.300 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Lin2	45475 3162698	135698 5652203	264722	624303	1172445	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Lin2	++++ 3399166	147942 5926162	281005	653935	1256601	++++ 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 14:21 Calibration End Date: 07/08/2018 16:27 Calibration ID: 32951

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
sec-Butylbenzene	DCBd 4	Lin2	16363 1078682	47454 1956458	91530	214743	403141	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Lin2	++++ 4076849	173533 7093106	340122	799519	1501554	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Lin2	29837 1893333	83280 3304999	157830	370864	693778	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Lin2	++++ 1828887	82745 3193920	152717	358284	671836	++++ 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Lin2	54400 3904182	162089 6808833	324470	759779	1414460	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Lin1	23973 1536772	67922 2655161	130362	300259	569593	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	++++ 92858	3486 159310	6577	16166	31967	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Lin1	++++ 1231133	54861 2078639	106292	241026	438187	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Lin2	16205 1113647	46224 1919165	92086	217533	385417	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin2	20946 1397392	59518 2316318	113608	265555	505202	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Lin1	++++ 996876	44286 1623746	82842	192617	357412	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-421403/24	MS9_2375.D
Level 2	STD2 280-421403/25	MS9_2374.D
Level 3	STD5 280-421403/26	MS9_2373.D
Level 4	ICIS 280-421403/27	MS9_2372.D
Level 5	STD30 280-421403/28	MS9_2371.D
Level 6	STD60 280-421403/29	MS9_2370.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	++++ 0.0032	0.0045	0.0048	0.0042	0.0036	Lin1	0.4254	0.0033							0.9910		0.9900
Ethanol	++++ 0.1329	0.1947	0.1709	0.1461	0.1324	Lin2	7.9124	0.1330							0.9960		0.9900
Propene oxide	0.0167 0.0115	0.0161	0.0156	0.0144	0.0128	Ave		0.0145				13.8		15.0			
2-Propanol	++++ 0.8837	0.9246	0.8573	0.9667	0.9277	Ave		0.9120				4.7		15.0			
Acetonitrile	0.0133 0.0114	0.0135	0.0139	0.0130	0.0125	Ave		0.0129				6.9		15.0			
Di-isopropyl ether (DIPE)	0.2959 0.2078	0.2864	0.2606	0.2544	0.2293	Ave		0.2557				13.1		15.0			
Chloroprene	0.6917 0.5261	0.7017	0.6557	0.6478	0.5590	Ave		0.6303				11.4		15.0			
Tert-butyl ethyl ether	0.8091 0.5926	0.7724	0.7278	0.7223	0.6473	Ave		0.7119				11.2		15.0			
Ethyl acetate	0.1303 0.0809	0.1157	0.1026	0.0955	0.0878	Lin2	0.0917	0.0880							0.9950		0.9900
Propionitrile	0.0160 0.0120	0.0162	0.0151	0.0146	0.0131	Ave		0.0145				11.3		15.0			
Methacrylonitrile	0.0755 0.0531	0.0731	0.0650	0.0649	0.0576	Ave		0.0649				13.3		15.0			
Tert-amyl methyl ether	0.6401 0.4832	0.6120	0.5689	0.5676	0.5255	Ave		0.5662				10.0		15.0			
n-Butanol	0.4169 0.3842	0.3756	0.3755	0.4346	0.4014	Ave		0.3981				6.1		15.0			
Methyl methacrylate	0.0404 0.0322	0.0386	0.0381	0.0368	0.0351	Ave		0.0369				7.8		15.0			
2-Nitropropane	0.0432 0.0230	0.0326	0.0265	0.0267	0.0244	Lin2	0.0390	0.0234							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrahydrothiophene	0.0272 0.0335	0.0366	0.0379	0.0343	0.0351	Lin2	-0.013	0.0361							0.9910		0.9900
cis-1,4-Dichloro-2-butene	0.1048 0.0794	0.0966	0.0868	0.0898	0.0814	Lin2	0.0475	0.0825							0.9980		0.9900
1,2,3-Trimethylbenzene	4.0508 2.6606	3.7474	3.5949	3.4484	2.9133	Lin1	2.0673	2.7652							0.9930		0.9900
1,3,5-Trichlorobenzene	2.1277 1.3931	1.9948	1.8965	1.8203	1.4846	Lin1	1.1347	1.4363							0.9920		0.9900
Dibromofluoromethane (Surr)	++++ 0.2739	0.3775	0.3408	0.3371	0.2981	Ave		0.3255				12.4		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.2248	0.3132	0.2779	0.2769	0.2477	Ave		0.2681				12.5		15.0			
Toluene-d8 (Surr)	++++ 3.7748	5.1125	4.8450	4.7280	4.1363	Ave		4.5193				12.1		15.0			
4-Bromofluorobenzene (Surr)	++++ 0.8695	1.2333	1.1335	1.1048	0.9431	Ave		1.0568				14.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 280-421403/24	MS9_2375.D
Level 2	STD2 280-421403/25	MS9_2374.D
Level 3	STD5 280-421403/26	MS9_2373.D
Level 4	ICIS 280-421403/27	MS9_2372.D
Level 5	STD30 280-421403/28	MS9_2371.D
Level 6	STD60 280-421403/29	MS9_2370.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Lin1	++++ 1680965	69646	194111	345608	923556	++++ 6000	200	500	1000	3000
Ethanol	TBAd 9	Lin2	++++ 289136	11519	28167	45932	139958	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	128520 5975513	251438	631271	1187913	3242763	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Ave	++++ 320393	9116	23554	50662	163463	++++ 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	10272 591146	21149	56497	107333	316614	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	22816 1075593	44726	105767	209825	581898	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	53333 2723208	109563	266102	534243	1418406	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	62384 3067508	120597	295323	595738	1642665	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Lin2	20086 837752	36135	83276	157547	445700	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	12313 621932	25247	61408	120518	333547	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	58218 2750902	114112	263664	535476	1461352	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	49357 2501157	95556	230869	468080	1333533	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Ave	4986 348244	9258	25795	56940	176825	25.0 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	6233 333877	12055	30908	60620	178348	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Lin2	6668 238630	10165	21535	44011	124081	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Lin2	1063 89024	3023	8009	14155	45947	2.00 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 421403

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/08/2018 17:09 Calibration End Date: 07/08/2018 18:53 Calibration ID: 32952

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
cis-1,4-Dichloro-2-butene	DCBd 4	Lin2	6160 332358	11949	27772	56828	168039	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Lin1	119033 5571738	231781	575384	1091198	3005234	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Lin1	62524 2917452	123381	303551	575994	1531431	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 1418136	58940	138285	278031	756396	++++ 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 1163694	48907	112773	228390	628556	++++ 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 5020365	211232	511496	976586	2707641	++++ 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 1820858	76278	181423	349608	972838	++++ 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422406

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/16/2018 23:11 Calibration End Date: 07/17/2018 00:35 Calibration ID: 33032

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 280-422406/10	MS9_2593.D
Level 2	STD5 280-422406/11	MS9_2594.D
Level 3	STD10 280-422406/12	MS9_2595.D
Level 4	STD30 280-422406/13	MS9_2596.D
Level 5	STD60 280-422406/14	MS9_2597.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dibromofluoromethane (Surr)	0.3420	0.3228	0.3036	0.2718	0.2624	Ave		0.3005				11.2		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2876	0.2772	0.2539	0.2227	0.2151	Ave		0.2513				12.8		15.0			
Toluene-d8 (Surr)	4.9471	4.6253	4.3412	3.7505	3.7121	Ave		4.2752				12.7		15.0			
4-Bromofluorobenzene (Surr)	1.2256	1.0896	1.0216	0.9092	0.9050	Lin2	0.6541	0.9190							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422406

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 07/16/2018 23:11 Calibration End Date: 07/17/2018 00:35 Calibration ID: 33032

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 280-422406/10	MS9_2593.D
Level 2	STD5 280-422406/11	MS9_2594.D
Level 3	STD10 280-422406/12	MS9_2595.D
Level 4	STD30 280-422406/13	MS9_2596.D
Level 5	STD60 280-422406/14	MS9_2597.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5
Dibromofluoromethane (Surr)	FB	Ave	55435	129422	235963	624089	1200324	2.00	5.00	10.0	30.0	60.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	46616	111152	197308	511459	983705	2.00	5.00	10.0	30.0	60.0
Toluene-d8 (Surr)	CBNZd	Ave	208283	473425	858980	2213778	4224150	2.00	5.00	10.0	30.0	60.0
4-Bromofluorobenzene (Surr)	DCBd4	Lin2	75502	172778	303618	790485	1536089	2.00	5.00	10.0	30.0	60.0

Curve Type Legend:

Ave = Average ISTD
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419807/19	Q5010.D
Level 2	STD020 280-419807/20	Q5011.D
Level 3	STD050 280-419807/21	Q5016.D
Level 4	ICIS 280-419807/22	Q5013.D
Level 5	STD30 280-419807/23	Q5014.D
Level 6	STD60 280-419807/24	Q5015.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0014 0.0015	0.0017	0.0022	0.0019	0.0017	Qua	0.0183	0.0019	0						1.0000		0.9900
Ethanol	++++ 0.1067	0.1937	0.1503	0.1326	0.1237	Lin2	9.8978	0.1133							0.9960		0.9900
Propene oxide	0.0133 0.0094	0.0115	0.0137	0.0123	0.0107	Ave		0.0118				13.7		15.0			
2-Propanol	0.3785 0.8389	0.9133	0.9534	0.9000	0.8401	Lin1	-1.711	0.8568							0.9960		0.9900
Di-isopropyl ether (DIPE)	0.1641 0.1725	0.1503	0.1645	0.1576	0.1644	Ave		0.1622				4.6		15.0			
Chloroprene	0.4039 0.3914	0.4082	0.4197	0.4200	0.4188	Ave		0.4103				2.8		15.0			
Tert-butyl ethyl ether	0.4360 0.4542	0.3933	0.4411	0.4034	0.4219	Ave		0.4250				5.5		15.0			
Ethyl acetate	0.0572 0.0475	0.0420	0.0459	0.0467	0.0471	Ave		0.0477				10.6		15.0			
Propionitrile	0.0032 0.0085	0.0021	0.0043	0.0048	0.0063	Qua	-0.021	0.0042	0.0000072						1.0000		0.9900
Methacrylonitrile	0.0382 0.0418	0.0372	0.0423	0.0426	0.0417	Ave		0.0406				5.7		15.0			
Tert-amyl methyl ether	0.3096 0.3269	0.2877	0.3330	0.3022	0.3153	Ave		0.3124				5.3		15.0			
Methyl methacrylate	0.0156 0.0223	0.0171	0.0191	0.0195	0.0207	Ave		0.0191				12.7		15.0			
2-Nitropropane	0.0058 0.0057	0.0066	0.0040	0.0046	0.0051	Qua	0.0022	0.0044	0.0000114						1.0000		0.9900
Tetrahydrothiophene	0.0378 0.0578	0.0490	0.0521	0.0482	0.0515	Ave		0.0494				13.4		15.0			
cis-1,4-Dichloro-2-butene	0.0863 0.1184	0.0976	0.1005	0.1112	0.1103	Ave		0.1041				11.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,3-Trimethylbenzene	3.4555 3.0172	3.5063	3.5297	3.3956	3.7243	Ave		3.4381				6.8		15.0			
1,3,5-Trichlorobenzene	1.1670 1.1355	1.1280	1.2237	1.0409	1.3320	Ave		1.1712				8.4		15.0			
Dibromofluoromethane (Surr)	++++ 0.2317	0.2392	0.2181	0.2227	0.2321	Ave		0.2287				3.7		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.1618	0.1750	0.1606	0.1658	0.1626	Ave		0.1652				3.5		15.0			
Toluene-d8 (Surr)	6.5918 ++++	6.2236	5.3243	5.8069	5.3421	Ave		5.8577				9.5		15.0			
4-Bromofluorobenzene (Surr)	++++ 1.1960	1.4126	1.1633	1.2401	1.3600	Ave		1.2744				8.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD010 280-419807/19	Q5010.D
Level 2	STD020 280-419807/20	Q5011.D
Level 3	STD050 280-419807/21	Q5016.D
Level 4	ICIS 280-419807/22	Q5013.D
Level 5	STD30 280-419807/23	Q5014.D
Level 6	STD60 280-419807/24	Q5015.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Qua	29248 1789177	69888	201537	401295	1058293	100 6000	200	500	1000	3000
Ethanol	TBAd 9	Lin2	++++ 291688	16984	33114	54012	165146	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	272525 11050202	469344	1241485	2648873	6657725	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Lin1	3020 382260	13346	35021	61105	186875	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	33622 2037466	61124	149552	339509	1018558	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	82753 4622596	165941	381652	904497	2594830	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	89316 5364063	159909	401087	868764	2614012	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	23418 1121570	34116	83393	201351	584167	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Qua	6475 1000187	8393	39074	102561	387275	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	78218 4935277	151271	384886	918442	2584913	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	63419 3861009	116953	302763	650909	1953485	1.00 60.0	2.00	5.00	10.0	30.0
Methyl methacrylate	FB	Ave	6395 526429	13917	34666	84039	257116	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Qua	2364 135635	5341	7303	19849	63464	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	3115 269900	7514	18431	38878	126087	2.00 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	8520 664845	16815	42782	100942	319205	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	170481 8468645	302145	751368	1541010	5389343	1.00 60.0	2.00	5.00	10.0	30.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 419807

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/25/2018 12:56 Calibration End Date: 06/25/2018 15:14 Calibration ID: 32817

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,3,5-Trichlorobenzene	DCBd 4	Ave	57577 3187092	97204	260488	472397	1927439	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 2736087	97228	198277	479513	1437827	++++ 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 1910903	71167	145996	357075	1007386	++++ 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	271724 ++++	477219	941105	2343739	6542646	1.00 ++++	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 3357095	121725	247623	562812	1967997	++++ 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD  
Qua = Quadratic ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-422015/12	Q5624.D
Level 2	STD010 280-422015/13	Q5625.D
Level 3	STD020 280-422015/14	Q5626.D
Level 4	STD050 280-422015/15	Q5627.D
Level 5	STD10 280-422015/16	Q5628.D
Level 6	STD30 280-422015/17	Q5629.D
Level 7	STD60 280-422015/18	Q5630.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.4938 0.5119	0.4266 0.5107	0.3789	0.5474	0.5517	Ave		0.4887				13.0		15.0			
Chloromethane	0.4941 0.4237	0.4858 0.4238	0.4540	0.5122	0.5068	Ave		0.4715			0.1000	8.0		15.0			
Vinyl chloride	0.3513 0.2818	0.3585 0.2671	0.3331	0.3655	0.3635	Ave		0.3315				12.3		30.0			
Bromomethane	0.3195 0.2456	0.2948 0.2188	0.2774	0.2840	0.2803	Ave		0.2743				12.0		15.0			
Chloroethane	0.2225 0.1841	0.2236 0.1649	0.2170	0.2121	0.2098	Ave		0.2049				10.8		15.0			
Dichlorofluoromethane	++++ 0.5758	0.6057 0.5385	0.6064	0.6164	0.6534	Ave		0.5994				6.5		15.0			
Trichlorofluoromethane	0.6513 0.6309	0.6736 0.6252	0.6623	0.6988	0.7215	Ave		0.6662				5.3		15.0			
Ethyl ether	0.1026 0.0922	0.1014 0.0712	0.0797	0.0983	0.0928	Ave		0.0912				12.8		15.0			
Acrolein	++++ 0.0116	0.0086 0.0132	0.0087	0.0106	0.0118	Lin2	-0.042	0.0121							0.9920		0.9900
Acetone	++++ 0.0170	0.0226 0.0161	0.0214	0.0182	0.0177	Ave		0.0188				13.7		15.0			
Freon 113	0.2063 0.2278	0.1993 0.2716	0.2164	0.2157	0.2489	Ave		0.2266				11.3		15.0			
1,1-Dichloroethene	0.2971 0.3163	0.2805 0.3515	0.2855	0.3015	0.3286	Ave		0.3087				8.2		30.0			
Iodomethane	0.3490 0.4233	0.3350 0.4863	0.3642	0.4019	0.4332	Ave		0.3990				13.4		15.0			
Methyl acetate	++++ 0.0434	0.0631 0.0411	0.0472	0.0434	0.0516	Lin1	0.0407	0.0420							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.4716 0.4798	0.5380 0.4593	0.4922	0.5224	0.5542	Ave		0.5025				7.2		15.0			
Carbon disulfide	++++ 1.3361	1.2866 1.4305	1.2803	1.3639	1.4420	Ave		1.3566				5.1		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	0.8082 1.2732	1.1196 1.3393	1.1064	1.2211	1.2327	Lin2	-1.398	1.2608							0.9980		0.9900
Methylene Chloride	0.6534 0.2434	0.3409 0.2677	0.3004	0.2674	0.2719	Lin2	0.1196	0.2464							0.9950		0.9900
Acrylonitrile	++++ 0.0215	0.0127 0.0235	0.0145	0.0187	0.0225	Lin2	-0.108	0.0222							0.9920		0.9900
Methyl tert-butyl ether	0.2133 0.2748	0.2328 0.3073	0.2315	0.2572	0.2961	Ave		0.2590				13.7		15.0			
trans-1,2-Dichloroethene	0.2709 0.3043	0.2849 0.3278	0.2728	0.2923	0.3115	Ave		0.2949				7.1		15.0			
Hexane	2.5437 2.7689	2.6940 2.3526	2.5390	2.9934	3.0972	Ave		2.7127				9.7		15.0			
Vinyl acetate	0.1304 0.1923	0.1319 0.1866	0.1372	0.1726	0.1903	Lin1	-0.069	0.1885							0.9980		0.9900
1,1-Dichloroethane	0.5504 0.5707	0.5790 0.5541	0.5680	0.5890	0.6237	Ave		0.5764			0.1000	4.3		15.0			
Methyl ethyl ketone (MEK)	++++ 0.0310	0.0301 0.0297	0.0328	0.0304	0.0333	Ave		0.0312				4.8		15.0			
sec-Butyl Alcohol	++++ 1.0547	0.8171 1.0201	0.7318	0.9172	1.0583	Ave		0.9332				14.6		15.0			
cis-1,2-Dichloroethene	0.2640 0.2958	0.2657 0.3034	0.2647	0.2793	0.3085	Ave		0.2830				6.8		15.0			
2,2-Dichloropropane	0.4591 0.4238	0.4325 0.4451	0.4182	0.4332	0.4562	Ave		0.4383				3.6		15.0			
Chlorobromomethane	0.0601 0.0827	0.0676 0.0879	0.0650	0.0733	0.0839	Ave		0.0744				14.3		15.0			
Chloroform	0.4631 0.5135	0.4862 0.4975	0.4732	0.5102	0.5494	Ave		0.4990				5.8		30.0			
Tetrahydrofuran	++++ 0.0158	++++ 0.0160	0.0109	0.0147	0.0158	Ave		0.0146				14.8		15.0			
Isobutyl alcohol	++++ 0.3633	++++ 0.3797	0.2456	0.2746	0.3086	Lin2	-6.404	0.3579							0.9920		0.9900
1,1,1-Trichloroethane	0.4595 0.5310	0.5004 0.5722	0.4884	0.5251	0.5616	Ave		0.5197				7.7		15.0			
Cyclohexane	++++ 0.6562	++++ 0.6084	0.6334	0.6850	0.7402	Ave		0.6574				7.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloropropene	0.4571 0.5524	0.5092 0.4850	0.4899	0.5361	0.5896	Ave		0.5170				8.8		15.0			
Carbon tetrachloride	0.3380 0.4729	0.3913 0.5184	0.3985	0.4260	0.4777	Ave		0.4318				14.3		15.0			
1,2-Dichloroethane	0.2371 0.2572	0.2552 0.2433	0.2420	0.2593	0.2790	Ave		0.2533				5.6		15.0			
Benzene	1.1708 1.2743	1.2476 1.1322	1.1800	1.2884	1.3955	Ave		1.2413				7.2		15.0			
n-Heptane	0.6102 0.6619	0.7031 0.5377	0.6969	0.7496	0.8032	Ave		0.6804				12.9		15.0			
Trichloroethene	0.3293 0.3780	0.3293 0.3611	0.3133	0.3483	0.3770	Ave		0.3484				7.1		15.0			
2-Pentanone	++++ 0.0504	0.0398 0.0454	0.0358	0.0414	0.0544	Lin1	-0.042	0.0478							0.9930		0.9900
1,2-Dichloropropane	0.2951 0.2896	0.2946 0.2428	0.2867	0.3023	0.3355	Ave		0.2924				9.3		30.0			
Methylcyclohexane	0.4816 0.5443	0.5545 0.4969	0.5605	0.5902	0.6292	Ave		0.5510				9.2		15.0			
1,4-Dioxane	++++ 0.0007	++++ 0.0008	0.0004	0.0006	0.0007	Lin2	-0.013	0.0007							0.9970		0.9900
Dibromomethane	0.0739 0.0912	0.0835 0.0925	0.0809	0.0880	0.0959	Ave		0.0865				8.8		15.0			
Dichlorobromomethane	0.2675 0.3341	0.2840 0.3237	0.2762	0.3114	0.3503	Ave		0.3067				10.3		15.0			
cis-1,3-Dichloropropene	1.1690 1.6980	1.3117 1.5921	1.3065	1.5806	1.7670	Lin2	-0.150	1.6000							0.9910		0.9900
4-Methyl-2-pentanone (MIBK)	0.0535 0.0737	0.0606 0.0696	0.0600	0.0671	0.0773	Ave		0.0660				12.7		15.0			
Toluene	1.3285 1.3402	1.3469 ++++	1.3269	1.3797	1.5452	Ave		1.3779				6.1		30.0			
Ethyl methacrylate	0.3448 0.6410	0.3924 0.6144	0.4077	0.5062	0.6288	Lin1	-0.158	0.6217							0.9970		0.9900
trans-1,3-Dichloropropene	0.1687 0.2770	0.1982 0.2684	0.1968	0.2338	0.2877	Lin1	-0.053	0.2721							0.9980		0.9900
1,1,2-Trichloroethane	0.1174 0.1273	0.1151 0.1297	0.1103	0.1174	0.1357	Ave		0.1218				7.5		15.0			
Methyl n-butyl ketone (MNBK)	0.1287 0.2169	0.1478 0.1956	0.1552	0.1886	0.2116	Lin1	-0.139	0.2035							0.9970		0.9900
1,3-Dichloropropane	0.9141 1.1219	1.0374 1.0307	1.0016	1.1198	1.2119	Ave		1.0625				9.1		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrachloroethene	0.9962 1.2876	1.0716 1.2333	1.0365	1.1420	1.2425	Ave		1.1442				9.9		15.0			
Chlorodibromomethane	0.4497 0.6866	0.5200 0.6850	0.4896	0.5755	0.6801	Lin1	-0.134	0.6828							0.9980		0.9900
1,2-Dibromoethane	0.3391 0.5032	0.3967 0.5036	0.3997	0.4533	0.5098	Ave		0.4436				15.0		15.0			
1-Chlorohexane	1.8213 2.7119	2.1306 2.4135	2.1900	2.4759	2.7639	Ave		2.3582				14.2		15.0			
Chlorobenzene	3.0256 3.5378	3.3350 3.1944	3.2234	3.4295	3.7043	Ave		3.3500			0.3000	6.8		15.0			
1,1,1,2-Tetrachloroethane	0.6856 1.0442	0.7711 0.9680	0.7838	0.9249	1.0429	Lin2	-0.095	0.9592							0.9900		0.9900
Ethylbenzene	1.8474 2.3397	2.0183 ++++	1.9973	2.2134	2.4611	Ave		2.1462				10.8		30.0			
m-Xylene & p-Xylene	++++ 2.8220	2.3927 2.5075	2.3879	2.5895	2.9000	Ave		2.6000				8.4		15.0			
o-Xylene	1.7191 2.2619	2.0473 1.8984	2.0608	2.3377	2.5318	Ave		2.1224				13.0		15.0			
Styrene	2.2940 3.3573	2.7887 ++++	2.8247	3.3636	3.7518	Lin2	-0.354	3.3683							0.9910		0.9900
Bromoform	++++ 0.2598	0.1668 0.2792	0.1804	0.2073	0.2509	Lin2	-0.106	0.2568			0.1000				0.9900		0.9900
Isopropylbenzene	4.5128 5.4633	5.0889 ++++	4.9726	5.5602	5.8906	Ave		5.2481				9.3		15.0			
Cyclohexanone	0.0049 0.0093	0.0062 0.0091	0.0066	0.0082	0.0094	Lin1	-0.082	0.0092							0.9990		0.9900
1,1,2,2-Tetrachloroethane	0.3835 0.4346	0.4058 0.4116	0.3788	0.4313	0.4574	Ave		0.4147			0.3000	6.9		15.0			
trans-1,4-Dichloro-2-butene	++++ 0.0881	0.0399 0.0902	0.0497	0.0702	0.0834	Lin2	-0.052	0.0864							0.9910		0.9900
1,2,3-Trichloropropane	++++ 0.1012	0.0855 0.0986	0.0871	0.0948	0.1006	Ave		0.0946				7.2		15.0			
N-Propylbenzene	++++ 1.6047	1.3545 1.3819	1.2954	1.4830	1.6034	Ave		1.4538				9.0		15.0			
Bromobenzene	++++ 0.9162	0.7569 0.8285	0.7309	0.7983	0.8893	Ave		0.8200				8.9		15.0			
1,3,5-Trimethylbenzene	3.2314 4.2493	3.8848 ++++	3.8764	4.1794	4.6040	Ave		4.0042				11.6		15.0			
2-Chlorotoluene	0.9726 1.2188	1.0968 ++++	1.0530	1.1307	1.2211	Ave		1.1155				8.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
4-Chlorotoluene	++++ 1.1949	1.0384 1.1142	0.9749	1.0855	1.1746	Ave		1.0971				7.6		15.0			
tert-Butylbenzene	++++ 4.3393	3.8801 3.7150	3.8430	4.3275	4.5495	Ave		4.1091				8.2		15.0			
1,2,4-Trimethylbenzene	++++ 4.0836	3.8838 3.4187	3.7478	4.1097	4.3435	Ave		3.9312				8.2		15.0			
sec-Butylbenzene	++++ 1.1819	0.9665 1.1052	0.9980	1.0814	1.1878	Ave		1.0868				8.4		15.0			
4-Isopropyltoluene	++++ 4.6865	4.3118 3.8285	4.3204	4.6569	4.9919	Ave		4.4660				9.0		15.0			
1,3-Dichlorobenzene	1.5062 1.7739	1.6106 1.7320	1.6128	1.6949	1.7960	Ave		1.6752				6.2		15.0			
1,4-Dichlorobenzene	1.6645 1.6858	1.6629 1.6738	1.5779	1.6563	1.7526	Ave		1.6677				3.1		15.0			
n-Butylbenzene	4.0119 4.7310	4.6374 ++++	4.9087	5.0523	5.4008	Ave		4.7904				9.7		15.0			
1,2-Dichlorobenzene	1.0925 1.3233	1.1982 1.3267	1.2212	1.2521	1.3812	Ave		1.2565				7.7		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0438	++++ 0.0462	0.0300	0.0356	0.0427	Lin2	-0.032	0.0452							0.9970		0.9900
1,2,4-Trichlorobenzene	++++ 0.7741	0.6255 0.7727	0.6231	0.6687	0.7782	Ave		0.7070				10.8		15.0			
Hexachlorobutadiene	0.6089 0.7401	0.6410 0.7739	0.6491	0.6557	0.7223	Ave		0.6844				8.9		15.0			
Naphthalene	++++ 0.9116	0.6120 0.9187	0.6695	0.7682	0.9277	Lin2	-0.333	0.9040							0.9950		0.9900
1,2,3-Trichlorobenzene	++++ 0.5337	0.4524 0.5431	0.4400	0.4766	0.5583	Ave		0.5007				10.1		15.0			
Dibromofluoromethane (Surr)	++++ 0.2369	0.2498 0.2465	0.2388	0.2457	0.2510	Ave		0.2448				2.3		15.0			
1,2-Dichloroethane-d4 (Surr)	++++ 0.2080	0.2588 0.2135	0.2310	0.2504	0.2512	Ave		0.2355				9.0		15.0			
Toluene-d8 (Surr)	++++ 5.2627	6.1783 ++++	5.8605	6.1125	5.9536	Ave		5.8735				6.2		15.0			
4-Bromofluorobenzene (Surr)	++++ 1.3062	1.5087 1.2427	1.3112	1.3762	1.3607	Ave		1.3510				6.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD003 280-422015/12	Q5624.D
Level 2	STD010 280-422015/13	Q5625.D
Level 3	STD020 280-422015/14	Q5626.D
Level 4	STD050 280-422015/15	Q5627.D
Level 5	STD10 280-422015/16	Q5628.D
Level 6	STD30 280-422015/17	Q5629.D
Level 7	STD60 280-422015/18	Q5630.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	27967 3729864	80529 7263525	139099	527216	1136738	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloromethane	FB	Ave	27982 3087353	91703 6027060	166675	493293	1044251	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	19897 2053451	67677 3798299	122297	352032	748949	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Bromomethane	FB	Ave	18095 1789601	55651 3111520	101854	273516	577470	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroethane	FB	Ave	12603 1341681	42205 2345867	79676	204251	432220	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	++++ 4195874	114331 7659033	222615	593606	1346316	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	36888 4596920	127162 8891303	243128	672981	1486608	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethyl ether	FB	Ave	5810 672071	19135 1013169	29263	94686	191215	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrolein	FB	Lin2	++++ 845463	16167 1880757	31874	102086	243951	++++ 300	10.00 600	20.0	50.0	100.0
Acetone	FB	Ave	++++ 496015	17101 915821	31395	70212	146069	++++ 120	4.00 240	8.00	20.0	40.0
Freon 113	FB	Ave	11683 1659885	37613 3862776	79450	207711	512913	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	16825 2304450	52952 4999198	104813	290348	677062	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Iodomethane	FB	Ave	19766 3084359	63228 6916431	133709	387079	892556	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin1	++++ 632664	23809 1169584	34621	83520	212745	++++ 60.0	2.00 120	4.00	10.0	20.0
Allyl chloride	FB	Ave	26708 3496260	101561 6532416	180675	503088	1141904	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	++++ 9735543	242868 20345919	470018	1313553	2971217	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	TBAd 9	Lin2	1486 327236	7263 688363	15109	41723	97189	3.00 300	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Lin2	37005 1773406	64357 3807185	110280	257515	560192	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Lin2	++++ 1567493	23991 3345783	53320	179662	464036	++++ 300	10.0 600	20.0	50.0	100
Methyl tert-butyl ether	FB	Ave	12078 2002055	43945 4370606	84969	247695	610187	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	15342 2217235	53785 4662743	100149	281540	641761	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Hexane	CBNZ d5	Ave	31157 4585280	108778 7904390	204063	617704	1438931	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Vinyl acetate	FB	Lin1	14771 2802213	49809 5309256	100747	332363	784277	0.600 60.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	31175 4158847	109295 7880089	208505	567214	1285247	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	++++ 904076	22720 1687052	48126	117186	274506	++++ 120	4.00 240	8.00	20.0	40.0
sec-Butyl Alcohol	TBAd 9	Ave	++++ 813228	15902 1572921	29982	94021	250322	++++ 900	30.0 1800	60.0	150	300
cis-1,2-Dichloroethene	FB	Ave	14950 2155198	50161 4314837	97162	268959	635726	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2,2-Dichloropropane	FB	Ave	26004 3087936	81650 6330931	153523	417178	940020	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	3402 602687	12767 1250647	23849	70631	172788	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chloroform	FB	Ave	26228 3741378	91783 7076059	173700	491335	1132120	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 230284	++++ 453749	7969	28336	65231	++++ 60.0	++++ 120	4.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Lin2	++++ 233427	++++ 487827	8384	23460	60827	++++ 750	++++ 1500	50.0	125	250
1,1,1-Trichloroethane	FB	Ave	26025 3869306	94457 8137953	179278	505666	1157133	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	++++ 4781377	117308 8652893	232517	659722	1525166	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	25891 4024868	96123 6897422	179862	516266	1214937	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	19143 3446076	73865 7373042	146310	410291	984306	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichloroethane	FB	Ave	13428 1874476	48169 3460429	88848	249750	574937	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Benzene	FB	Ave	66314 9285169	235515 16102739	433181	1240835	2875550	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Ave	34563 4822798	132724 7647294	255838	721920	1654944	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	18649 2754372	62683 5136411	115020	335410	776923	0.300 30.0	1.00 60.0	2.00	5.00	10.0
2-Pentanone	FB	Lin1	++++ 1468489	30028 2583547	52610	159344	448323	++++ 120	4.00 240	8.00	20.0	40.0
1,2-Dichloropropane	FB	Ave	16713 2110305	55608 3453036	105264	291181	691347	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	27277 3966459	104669 7067049	205777	568447	1296539	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin2	++++ 99136	++++ 213792	3117	10791	27805	++++ 600	++++ 1200	40.0	100	200
Dibromomethane	FB	Ave	4183 664490	15755 1315655	29704	84708	197692	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	15149 2434151	53604 4603287	101395	299856	721839	0.300 30.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Lin2	14318 2811812	52963 5349150	105007	326159	820905	0.300 30.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	12110 2146884	45740 3960175	88171	258590	637454	1.20 120	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	75243 9765881	254249 ++++	487135	1328722	3184035	0.300 30.0	1.00 ++++	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin1	4223 1061461	15843 2064323	32767	104460	292137	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Lin1	9555 2018176	37409 3816829	72262	225162	592721	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	6648 927428	21730 1844687	40482	113032	279529	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Lin1	6307 1436607	23866 2628553	49888	155689	393252	1.20 120	4.00 240	8.00	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	11196 1857836	41888 3462919	80501	231079	563044	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	12202 2132177	43269 4143556	83309	235652	577271	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Lin1	5508 1137045	20995 2301381	39351	118754	315984	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	4154 833315	16016 1691969	32127	93540	236843	0.300 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1-Chlorohexane	CBNZ d5	Ave	22308 4490790	86027 8108951	176019	510910	1284082	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	37059 5858606	134657 10732719	259077	707689	1720973	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Lin2	8398 1729151	31134 3252433	62998	190848	484521	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	22628 3874433	81493 +++++	160527	456746	1143380	0.300 30.0	1.00 +++++	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	+++++ 4673256	96611 8424771	191925	534357	1347291	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	21056 3745718	82665 6378183	165635	482383	1176235	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Lin2	28098 5559679	112600 +++++	227025	694095	1743042	0.300 30.0	1.00 +++++	2.00	5.00	10.0
Bromoform	CBNZ d5	Lin2	+++++ 430198	6733 938220	14498	42779	116575	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	60702 10711747	240911 +++++	485873	1399594	3360481	0.300 30.0	1.00 +++++	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin1	2420 614373	10089 1228800	21367	67650	175115	12.0 1200	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	5158 852170	19212 1712080	37009	108553	260932	0.300 30.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin2	+++++ 172833	1891 375009	4856	17667	47579	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	+++++ 198355	4047 410338	8510	23875	57383	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	+++++ 3146389	64123 5748109	126570	373288	914734	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	+++++ 1796458	35834 3446375	71413	200954	507320	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	43466 8331409	183908 +++++	378763	1052022	2626493	0.300 30.0	1.00 +++++	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	13082 2389605	51924 +++++	102889	284611	696608	0.300 30.0	1.00 +++++	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	+++++ 2342886	49157 4634757	95252	273240	670064	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	+++++ 8507945	183686 15452949	375492	1089289	2595431	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	+++++ 8006677	183860 14220274	366193	1034486	2477892	+++++ 30.0	1.00 60.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	+++++ 2317256	45755 4597304	97517	272201	677602	+++++ 30.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-111956-1 Analy Batch No.: 422015

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/12/2018 13:55 Calibration End Date: 07/12/2018 16:26 Calibration ID: 33031

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
4-Isopropyltoluene	DCBd 4	Ave	++++ 9188690	204125 15924979	422141	1172207	2847798	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	20260 3478055	76245 7204516	157581	426625	1024602	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	22390 3305251	78721 6962072	154177	416913	999818	0.300 30.0	1.00 60.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	53965 9275995	219539 ++++	479625	1271752	3081029	0.300 30.0	1.00 ++++	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	14695 2594647	56723 5518415	119321	315163	787964	0.300 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin2	++++ 85935	++++ 192120	2935	8957	24333	++++ 30.0	++++ 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	++++ 1517799	29610 3213940	60885	168319	443927	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	8190 1451029	30347 3219111	63419	165053	412051	0.300 30.0	1.00 60.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin2	++++ 1787318	28971 3821448	65413	193368	529258	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	++++ 1046447	21415 2258875	42996	119967	318514	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Ave	++++ 1726139	47162 3505443	87674	236624	517129	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	++++ 1515688	48847 3036902	84793	241193	517537	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	++++ 8715007	249464 ++++	471020	1261331	2765977	++++ 30.0	1.00 ++++	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	++++ 2561071	71423 5169288	128120	346417	776263	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-422928/20 Calibration Date: 07/19/2018 22:49

Instrument ID: VMS\_G2 Calib Start Date: 07/19/2018 19:45

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/19/2018 22:08

Lab File ID: G2\_5576.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethyl ether	Ave	0.2594	0.2671		51.5	50.0	3.0	35.0
Acrolein	Ave	0.0454	0.0424		467	500	-6.6	50.0
1,1-Dichloroethene	Ave	0.2770	0.2917		52.7	50.0	5.3	20.0
Freon 113	Ave	0.2208	0.2329		52.7	50.0	5.5	50.0
Iodomethane	Ave	0.4343	0.4525		52.1	50.0	4.2	35.0
Carbon disulfide	Ave	1.075	1.075		50.0	50.0	-0.0	50.0
Allyl chloride	Ave	0.5287	0.5455		51.6	50.0	3.2	35.0
Methyl acetate	Lin1		0.2079		239	250	-4.3	50.0
Methylene Chloride	Lin2		0.3161		51.2	50.0	2.5	35.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0268	0.0257		479	500	-4.2	35.0
Acrylonitrile	Ave	0.0980	0.1027		524	500	4.8	50.0
Methyl tert-butyl ether	Ave	0.7638	0.7447		48.8	50.0	-2.5	35.0
trans-1,2-Dichloroethene	Ave	0.2909	0.3162		54.3	50.0	8.7	35.0
Hexane	Ave	2.614	2.655		50.8	50.0	1.6	35.0
1,1-Dichloroethane	Ave	0.5667	0.5758	0.1000	50.8	50.0	1.6	35.0
Vinyl acetate	Lin2		0.5303		107	100	6.6	50.0
2,2-Dichloropropane	Lin2		0.4741		50.4	50.0	0.7	35.0
cis-1,2-Dichloroethene	Ave	0.3247	0.3327		51.2	50.0	2.5	35.0
Chlorobromomethane	Lin2		0.1326		50.0	50.0	-0.0	35.0
sec-Butyl Alcohol	Lin1		0.0224		1310	1500	-12.5	55.0
Tetrahydrofuran	Ave	0.0939	0.0936		99.7	100	-0.3	50.0
Chloroform	Ave	0.4838	0.4940		51.1	50.0	2.1	20.0
1,1,1-Trichloroethane	Ave	0.3941	0.4191		53.2	50.0	6.3	35.0
Cyclohexane	Lin2		0.6710		52.5	50.0	5.0	35.0
Carbon tetrachloride	Ave	0.3195	0.3475		54.4	50.0	8.8	35.0
1,1-Dichloropropene	Ave	0.4233	0.4447		52.5	50.0	5.1	35.0
Benzene	Ave	1.301	1.280		49.2	50.0	-1.6	35.0
1,2-Dichloroethane	Ave	0.3520	0.3489		49.6	50.0	-0.9	35.0
Isobutyl alcohol	Ave	0.0142	0.0136		1200	1250	-3.8	50.0
Trichloroethene	Ave	0.2972	0.3019		50.8	50.0	1.6	35.0
2-Pentanone	Ave	0.2367	0.2197		186	200	-7.2	50.0
Methylcyclohexane	Ave	0.5377	0.5202		48.4	50.0	-3.3	35.0
1,2-Dichloropropane	Ave	0.3393	0.3362		49.6	50.0	-0.9	20.0
Dibromomethane	Ave	0.1625	0.1601		49.3	50.0	-1.4	35.0
1,4-Dioxane	Lin2		0.0027		931	1000	-6.9	50.0
Dichlorobromomethane	Lin2		0.3412		51.3	50.0	2.6	35.0
2-Chloroethyl vinyl ether	Lin1		0.1260		49.2	50.0	-1.6	50.0
cis-1,3-Dichloropropene	Ave	1.834	2.065		56.3	50.0	12.6	35.0
Toluene	Ave	1.327	1.307		49.3	50.0	-1.5	20.0
trans-1,3-Dichloropropene	Lin1		0.3725		48.4	50.0	-3.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-422928/20 Calibration Date: 07/19/2018 22:49

Instrument ID: VMS\_G2 Calib Start Date: 07/19/2018 19:45

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/19/2018 22:08

Lab File ID: G2\_5576.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethyl methacrylate	Lin1		1.633		47.6	50.0	-4.8	35.0
1,1,2-Trichloroethane	Ave	0.2405	0.2342		48.7	50.0	-2.6	35.0
Tetrachloroethene	Ave	1.037	1.060		51.1	50.0	2.3	35.0
1,3-Dichloropropane	Ave	1.983	1.925		48.5	50.0	-2.9	35.0
Chlorodibromomethane	Lin1		0.9858		47.5	50.0	-5.1	35.0
1,2-Dibromoethane	Ave	0.998	1.012		50.7	50.0	1.4	35.0
1-Chlorohexane	Ave	2.015	2.061		51.1	50.0	2.2	35.0
Chlorobenzene	Ave	3.630	3.634	0.3000	50.1	50.0	0.1	35.0
1,1,1,2-Tetrachloroethane	Lin1		1.154		50.7	50.0	1.5	35.0
Ethylbenzene	Ave	2.034	2.071		50.9	50.0	1.8	20.0
m-Xylene & p-Xylene	Ave	2.568	2.549		49.6	50.0	-0.7	35.0
o-Xylene	Ave	2.412	2.469		51.2	50.0	2.4	35.0
Styrene	Lin2		3.977		52.2	50.0	4.5	35.0
Bromoform	Lin1		0.5498	0.1000	45.3	50.0	-9.3	35.0
Isopropylbenzene	Ave	4.048	4.194		51.8	50.0	3.6	35.0
Bromobenzene	Ave	0.8843	0.9002		50.9	50.0	1.8	35.0
1,1,2,2-Tetrachloroethane	Ave	0.9421	0.9379	0.3000	49.8	50.0	-0.4	35.0
trans-1,4-Dichloro-2-butene	Lin1		0.2578		51.2	50.0	2.4	50.0
1,2,3-Trichloropropane	Ave	0.2580	0.2530		49.0	50.0	-1.9	35.0
N-Propylbenzene	Ave	1.095	1.182		54.0	50.0	7.9	35.0
2-Chlorotoluene	Ave	0.9309	0.9741		52.3	50.0	4.6	35.0
1,3,5-Trimethylbenzene	Ave	3.268	3.464		53.0	50.0	6.0	35.0
4-Chlorotoluene	Ave	0.9333	1.000		53.6	50.0	7.2	35.0
tert-Butylbenzene	Ave	2.831	2.983		52.7	50.0	5.4	35.0
1,2,4-Trimethylbenzene	Ave	3.332	3.476		52.1	50.0	4.3	35.0
sec-Butylbenzene	Ave	0.8808	0.9625		54.6	50.0	9.3	35.0
1,3-Dichlorobenzene	Ave	1.754	1.797		51.2	50.0	2.5	35.0
4-Isopropyltoluene	Ave	3.639	3.891		53.5	50.0	6.9	35.0
1,4-Dichlorobenzene	Ave	1.786	1.851		51.8	50.0	3.6	35.0
n-Butylbenzene	Ave	3.578	3.859		53.9	50.0	7.9	35.0
1,2-Dichlorobenzene	Ave	1.667	1.732		51.9	50.0	3.9	35.0
1,2-Dibromo-3-Chloropropane	Lin1		0.1568		46.6	50.0	-6.8	50.0
1,2,4-Trichlorobenzene	Ave	1.250	1.324		53.0	50.0	6.0	35.0
Hexachlorobutadiene	Ave	0.6478	0.7260		56.0	50.0	12.1	35.0
Naphthalene	Ave	3.073	3.073		50.0	50.0	-0.0	35.0
1,2,3-Trichlorobenzene	Ave	1.212	1.258		51.9	50.0	3.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-422928/29 Calibration Date: 07/20/2018 02:13  
 Instrument ID: VMS\_G2 Calib Start Date: 07/19/2018 23:30  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/20/2018 01:52  
 Lab File ID: G2\_5586.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Qua		0.0050		5610	5000	12.2	50.0
Ethanol	Lin2		0.1603		2730	3000	-9.0	50.0
Propene oxide	Ave	0.0467	0.0482		5160	5000	3.3	
2-Propanol	Lin1		0.7830		444	500	-11.1	50.0
Acetonitrile	Lin2		0.0353		483	500	-3.3	50.0
Chloroprene	Ave	0.4531	0.5097		56.2	50.0	12.5	35.0
Di-isopropyl ether (DIPE)	Ave	0.2582	0.2791		54.0	50.0	8.1	35.0
Tert-butyl ethyl ether	Ave	0.8342	0.8755		52.5	50.0	4.9	35.0
Ethyl acetate	Ave	0.2623	0.2637		101	100	0.5	50.0
Propionitrile	Lin1		0.0394		464	500	-7.2	50.0
Methacrylonitrile	Ave	0.1619	0.1763		544	500	8.8	50.0
Tert-amyl methyl ether	Lin1		0.7544		49.0	50.0	-2.1	35.0
n-Butanol	Lin1		0.3516		1160	1250	-7.3	50.0
Methyl methacrylate	Lin2		0.0769		102	100	1.8	35.0
2-Nitropropane	Ave	0.0348	0.0375		107	100	7.5	50.0
cis-1,4-Dichloro-2-butene	Lin2		0.1886		103	100	3.0	50.0
1,2,3-Trimethylbenzene	Ave	3.493	3.701		53.0	50.0	5.9	35.0
1,3,5-Trichlorobenzene	Ave	1.474	1.529		51.9	50.0	3.7	
Dibromofluoromethane (Surr)	Ave	0.2566	0.2463		48.0	50.0	-4.0	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3207	0.3015		47.0	50.0	-6.0	35.0
Toluene-d8 (Surr)	Lin2		4.804		49.1	50.0	-1.8	35.0
4-Bromofluorobenzene (Surr)	Ave	1.232	1.163		47.2	50.0	-5.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-423317/18 Calibration Date: 07/23/2018 21:07  
 Instrument ID: VMS\_G2 Calib Start Date: 07/23/2018 18:23  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/23/2018 20:46  
 Lab File ID: G2\_5696.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.3941		45.7	50.0	-8.5	50.0
Chloromethane	Ave	0.3885	0.3913	0.1000	50.4	50.0	0.7	35.0
Vinyl chloride	Ave	0.3772	0.3881		51.4	50.0	2.9	20.0
Bromomethane	Ave	0.1456	0.1575		54.1	50.0	8.2	35.0
Chloroethane	Ave	0.1478	0.1579		53.4	50.0	6.8	35.0
Dichlorofluoromethane	Ave	0.6872	0.7258		52.8	50.0	5.6	50.0
Trichlorofluoromethane	Ave	0.5049	0.5270		52.2	50.0	4.4	50.0
Acetone	Lin2		0.0985		220	200	10.1	50.0
Methyl ethyl ketone (MEK)	Lin1		0.1497		202	200	0.9	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2801	0.3253		232	200	16.1	50.0
Methyl n-butyl ketone (MNBK)	Lin2		1.033		223	200	11.4	50.0
Cyclohexanone	Lin1		0.0538		2140	2000	6.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-423345/19 Calibration Date: 07/23/2018 21:48

Instrument ID: VMS\_G2 Calib Start Date: 07/19/2018 19:45

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/19/2018 22:08

Lab File ID: G2\_5698.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethyl ether	Ave	0.2594	0.2745		106	100	5.8	35.0
Acrolein	Ave	0.0454	0.0585		1290	1000	28.9	50.0
1,1-Dichloroethene	Ave	0.2770	0.2861		103	100	3.3	20.0
Freon 113	Ave	0.2208	0.2230		101	100	1.0	50.0
Iodomethane	Ave	0.4343	0.4303		99.1	100	-0.9	35.0
Carbon disulfide	Ave	1.075	1.111		103	100	3.3	50.0
Allyl chloride	Ave	0.5287	0.5620		106	100	6.3	35.0
Methyl acetate	Lin1		0.2639		243	200	21.5	50.0
Methylene Chloride	Lin2		0.3202		105	100	5.3	35.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0268	0.0340		1270	1000	26.7	35.0
Acrylonitrile	Ave	0.0980	0.1282		1310	1000	30.8	50.0
trans-1,2-Dichloroethene	Ave	0.2909	0.3112		107	100	7.0	35.0
Methyl tert-butyl ether	Ave	0.7638	0.8182		107	100	7.1	35.0
Hexane	Ave	2.614	2.680		103	100	2.5	35.0
1,1-Dichloroethane	Ave	0.5667	0.6050	0.1000	107	100	6.8	35.0
Vinyl acetate	Lin2		0.5682		227	200	13.6	50.0
2,2-Dichloropropane	Lin2		0.4954		107	100	7.0	35.0
cis-1,2-Dichloroethene	Ave	0.3247	0.3364		104	100	3.6	35.0
Chlorobromomethane	Lin2		0.1331		100	100	0.0	35.0
Tetrahydrofuran	Ave	0.0939	0.1226		261	200	30.6	50.0
sec-Butyl Alcohol	Lin1		0.0313		3570	3000	19.1	50.0
Chloroform	Ave	0.4838	0.5087		105	100	5.1	20.0
1,1,1-Trichloroethane	Ave	0.3941	0.4349		110	100	10.3	35.0
Cyclohexane	Lin2		0.6921		109	100	8.9	35.0
Carbon tetrachloride	Ave	0.3195	0.3674		115	100	15.0	35.0
1,1-Dichloropropene	Ave	0.4233	0.4580		108	100	8.2	35.0
Benzene	Ave	1.301	1.316		101	100	1.1	35.0
1,2-Dichloroethane	Ave	0.3520	0.3878		110	100	10.2	35.0
Isobutyl alcohol	Ave	0.0142	0.0148		2610	2500	4.5	50.0
Trichloroethene	Ave	0.2972	0.3092		104	100	4.0	35.0
2-Pentanone	Ave	0.2367	0.3109		525	400	31.4	50.0
Methylcyclohexane	Ave	0.5377	0.5649		105	100	5.1	35.0
1,2-Dichloropropane	Ave	0.3393	0.3473		102	100	2.4	20.0
1,4-Dioxane	Lin2		0.0032		2140	2000	6.9	50.0
Dibromomethane	Ave	0.1625	0.1741		107	100	7.1	35.0
Dichlorobromomethane	Lin2		0.3680		110	100	10.5	35.0
2-Chloroethyl vinyl ether	Lin1		0.1287		99.9	100	-0.0	50.0
cis-1,3-Dichloropropene	Ave	1.834	2.062		112	100	12.4	35.0
Toluene	Ave	1.327	1.319		99.4	100	-0.6	20.0
trans-1,3-Dichloropropene	Lin1		0.4063		105	100	4.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-423345/19 Calibration Date: 07/23/2018 21:48

Instrument ID: VMS\_G2 Calib Start Date: 07/19/2018 19:45

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/19/2018 22:08

Lab File ID: G2\_5698.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethyl methacrylate	Lin1		1.767		102	100	2.4	35.0
1,1,2-Trichloroethane	Ave	0.2405	0.2413		100	100	0.3	35.0
Tetrachloroethene	Ave	1.037	1.029		99.3	100	-0.7	35.0
1,3-Dichloropropane	Ave	1.983	2.034		103	100	2.6	35.0
Chlorodibromomethane	Lin1		1.026		98.0	100	-2.0	35.0
1,2-Dibromoethane	Ave	0.998	1.057		106	100	5.9	35.0
1-Chlorohexane	Ave	2.015	2.062		102	100	2.3	35.0
Chlorobenzene	Ave	3.630	3.613	0.3000	99.5	100	-0.5	35.0
1,1,1,2-Tetrachloroethane	Lin1		1.162		102	100	1.7	35.0
Ethylbenzene	Ave	2.034	2.092		103	100	2.8	20.0
m-Xylene & p-Xylene	Ave	2.568	2.508		97.7	100	-2.3	35.0
o-Xylene	Ave	2.412	2.461		102	100	2.0	35.0
Styrene	Lin2		4.021		106	100	5.6	35.0
Bromoform	Lin1		0.6128	0.1000	97.0	100	-3.0	35.0
Isopropylbenzene	Ave	4.048	4.054		100	100	0.2	35.0
Bromobenzene	Ave	0.8843	0.8858		100	100	0.2	35.0
1,1,2,2-Tetrachloroethane	Ave	0.9421	1.022	0.3000	109	100	8.5	35.0
trans-1,4-Dichloro-2-butene	Lin1		0.2989		118	100	18.2	50.0
1,2,3-Trichloropropane	Ave	0.2580	0.2790		108	100	8.2	35.0
N-Propylbenzene	Ave	1.095	1.148		105	100	4.9	35.0
2-Chlorotoluene	Ave	0.9309	0.9492		102	100	2.0	35.0
1,3,5-Trimethylbenzene	Ave	3.268	3.419		105	100	4.6	35.0
4-Chlorotoluene	Ave	0.9333	0.9603		103	100	2.9	35.0
tert-Butylbenzene	Ave	2.831	2.938		104	100	3.8	35.0
1,2,4-Trimethylbenzene	Ave	3.332	3.451		104	100	3.6	35.0
sec-Butylbenzene	Ave	0.8808	0.9383		107	100	6.5	35.0
1,3-Dichlorobenzene	Ave	1.754	1.782		102	100	1.6	35.0
4-Isopropyltoluene	Ave	3.639	3.871		106	100	6.4	35.0
1,4-Dichlorobenzene	Ave	1.786	1.796		101	100	0.6	35.0
n-Butylbenzene	Ave	3.578	3.802		106	100	6.3	35.0
1,2-Dichlorobenzene	Ave	1.667	1.697		102	100	1.8	35.0
1,2-Dibromo-3-Chloropropane	Lin1		0.1783		104	100	4.4	50.0
1,2,4-Trichlorobenzene	Ave	1.250	1.274		102	100	1.9	35.0
Hexachlorobutadiene	Ave	0.6478	0.6958		107	100	7.4	35.0
Naphthalene	Ave	3.073	3.115		101	100	1.3	35.0
1,2,3-Trichlorobenzene	Ave	1.212	1.196		98.7	100	-1.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-423345/19 Calibration Date: 07/23/2018 21:48  
Instrument ID: VMS\_G2 Calib Start Date: 07/19/2018 23:30  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/20/2018 01:52  
Lab File ID: G2\_5698.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2566	0.2409		41.3	44.0	-6.1	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.3207	0.2972		40.8	44.0	-7.3	35.0
Toluene-d8 (Surr)	Lin2		4.587		41.1	44.0	-6.6	35.0
4-Bromofluorobenzene (Surr)	Ave	1.232	1.071		38.3	44.0	-13.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-423345/19 Calibration Date: 07/23/2018 21:48  
 Instrument ID: VMS\_G2 Calib Start Date: 07/23/2018 18:23  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/23/2018 20:46  
 Lab File ID: G2\_5698.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.4394		102	100	1.7	50.0
Chloromethane	Ave	0.3885	0.3833	0.1000	98.7	100	-1.3	35.0
Vinyl chloride	Ave	0.3772	0.3828		101	100	1.5	20.0
Bromomethane	Ave	0.1456	0.1211		83.2	100	-16.8	35.0
Chloroethane	Ave	0.1478	0.1251		84.6	100	-15.4	35.0
Dichlorofluoromethane	Ave	0.6872	0.6743		98.1	100	-1.9	50.0
Trichlorofluoromethane	Ave	0.5049	0.5105		101	100	1.1	50.0
Acetone	Lin2		0.1033		465	400	16.2	50.0
Methyl ethyl ketone (MEK)	Lin1		0.1651		443	400	10.7	50.0
4-Methyl-2-pentanone (MIBK)	Ave	0.2801	0.3610		516	400	28.9	50.0
Methyl n-butyl ketone (MNBK)	Lin2		1.125		483	400	20.7	50.0
Cyclohexanone	Lin1		0.0563		4400	4000	10.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-421403/17 Calibration Date: 07/08/2018 16:48

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2369.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.6440	0.5453		8.47	10.0	-15.3	55.0
Chloromethane	Lin1		0.5280	0.1000	9.95	10.0	-0.5	35.0
Vinyl chloride	Ave	0.6509	0.5515		8.47	10.0	-15.3	35.0
Bromomethane	Lin2		0.3902		9.62	10.0	-3.8	35.0
Chloroethane	Lin1		0.3026		10.2	10.0	2.3	35.0
Dichlorofluoromethane	Lin2		0.8185		10.3	10.0	2.8	55.0
Trichlorofluoromethane	Lin2		0.7643		9.49	10.0	-5.1	50.0
Ethyl ether	Lin2		0.1691		10.7	10.0	6.7	35.0
Acrolein	Lin2		0.0128		71.4	100	-28.6	55.0
Freon 113	Lin2		0.4092		10.0	10.0	0.0	55.0
1,1-Dichloroethene	Lin2		0.4079		10.2	10.0	1.6	35.0
Acetone	Lin2		0.0359		45.1	40.0	12.8	55.0
Iodomethane	Ave	0.7085	0.6837		9.65	10.0	-3.5	35.0
Methyl acetate	Lin2		0.0730		48.4	50.0	-3.2	55.0
Allyl chloride	Lin2		0.6461		10.3	10.0	2.8	35.0
Carbon disulfide	Lin2		1.464		9.79	10.0	-2.1	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0114	0.0109		95.2	100	-4.8	55.0
Methylene Chloride	Lin2		0.3427		10.6	10.0	6.0	35.0
Methyl tert-butyl ether	Lin2		0.5192		10.1	10.0	1.3	35.0
trans-1,2-Dichloroethene	Lin2		0.4248		10.1	10.0	1.1	35.0
Acrylonitrile	Lin2		0.0355		102	100	2.2	55.0
Hexane	Lin2		2.462		9.71	10.0	-2.9	35.0
Vinyl acetate	Ave	0.2723	0.2187		16.1	20.0	-19.7	55.0
1,1-Dichloroethane	Lin2		0.6658	0.1000	10.1	10.0	1.4	35.0
Methyl ethyl ketone (MEK)	Lin2		0.0566		43.1	40.0	7.7	55.0
sec-Butyl Alcohol	Ave	1.097	1.114		305	300	1.5	
2,2-Dichloropropane	Lin2		0.6499		10.1	10.0	1.3	35.0
cis-1,2-Dichloroethene	Lin2		0.4094		10.4	10.0	4.2	35.0
Chloroform	Lin2		0.6362		10.1	10.0	0.8	35.0
Tetrahydrofuran	Ave	0.0337	0.0304		18.0	20.0	-9.9	55.0
Chlorobromomethane	Lin2		0.1560		10.3	10.0	2.5	35.0
1,1,1-Trichloroethane	Lin2		0.7003		10.1	10.0	0.5	35.0
Isobutyl alcohol	Ave	1.164	1.152		247	250	-1.0	55.0
Cyclohexane	Ave	0.7826	0.7432		9.50	10.0	-5.0	35.0
1,1-Dichloropropene	Lin2		0.5908		10.1	10.0	0.7	35.0
Carbon tetrachloride	Lin2		0.6534		10.1	10.0	0.9	35.0
n-Heptane	Lin2		0.6753		9.83	10.0	-1.7	50.0
Benzene	Lin2		1.343		9.98	10.0	-0.2	35.0
1,2-Dichloroethane	Lin2		0.3415		10.2	10.0	1.8	35.0
Trichloroethene	Lin2		0.4387		10.0	10.0	0.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-421403/17 Calibration Date: 07/08/2018 16:48

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2369.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0829	0.0698		33.7	40.0	-15.9	55.0
Methylcyclohexane	Ave	0.6599	0.6208		9.41	10.0	-5.9	35.0
1,2-Dichloropropane	Lin2		0.3284		10.4	10.0	4.4	35.0
1,4-Dioxane	Ave	0.0014	0.0014		187	200	-6.7	55.0
Dibromomethane	Lin2		0.1399		10.1	10.0	1.1	35.0
Dichlorobromomethane	Lin2		0.4058		10.0	10.0	0.3	35.0
2-Chloroethyl vinyl ether	Ave	0.0992	0.0801		8.07	10.0	-19.3	55.0
cis-1,3-Dichloropropene	Ave	1.757	1.712		9.74	10.0	-2.6	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1025	0.1003		39.1	40.0	-2.2	55.0
Toluene	Lin2		1.444		10.1	10.0	0.5	35.0
Ethyl methacrylate	Ave	0.7725	0.7338		9.50	10.0	-5.0	35.0
trans-1,3-Dichloropropene	Lin2		0.3410		10.2	10.0	2.3	35.0
1,1,2-Trichloroethane	Lin2		0.1843		10.3	10.0	2.6	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2600	0.2692		41.4	40.0	3.5	55.0
Tetrachloroethene	Lin2		1.531		9.70	10.0	-3.0	35.0
1,3-Dichloropropane	Ave	1.210	1.149		9.50	10.0	-5.0	35.0
Chlorodibromomethane	Lin2		0.9746		10.2	10.0	1.6	35.0
1,2-Dibromoethane	Lin2		0.6789		9.97	10.0	-0.3	35.0
1-Chlorohexane	Ave	2.482	2.280		9.19	10.0	-8.1	35.0
Chlorobenzene	Lin2		3.603	0.3000	9.92	10.0	-0.8	35.0
Ethylbenzene	Lin2		2.320		9.72	10.0	-2.8	35.0
1,1,1,2-Tetrachloroethane	Ave	1.434	1.381		9.63	10.0	-3.7	35.0
m-Xylene & p-Xylene	Lin2		5.193		9.97	10.0	-0.3	35.0
o-Xylene	Lin2		2.542		9.79	10.0	-2.1	35.0
Styrene	Ave	3.994	3.693		9.25	10.0	-7.5	35.0
Bromoform	Ave	0.5475	0.5307	0.1000	9.69	10.0	-3.1	35.0
Isopropylbenzene	Lin2		4.376		10.1	10.0	0.8	35.0
Cyclohexanone	Ave	0.0140	0.0140		400	400	0.0	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4580	0.4569	0.3000	9.98	10.0	-0.2	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1705	0.1703		9.99	10.0	-0.0	55.0
N-Propylbenzene	Lin2		1.393		10.2	10.0	2.5	35.0
1,2,3-Trichloropropane	Ave	0.1518	0.1455		9.59	10.0	-4.1	35.0
Bromobenzene	Lin1		1.014		11.0	10.0	10.0	35.0
1,3,5-Trimethylbenzene	Lin2		3.600		9.98	10.0	-0.2	35.0
2-Chlorotoluene	Lin2		1.153		10.1	10.0	1.2	35.0
4-Chlorotoluene	Lin2		1.148		9.98	10.0	-0.2	35.0
tert-Butylbenzene	Lin2		3.312		9.74	10.0	-2.6	35.0
1,2,4-Trimethylbenzene	Lin2		3.572		10.2	10.0	1.8	35.0
sec-Butylbenzene	Lin2		1.159		9.92	10.0	-0.8	35.0
4-Isopropyltoluene	Lin2		4.222		9.98	10.0	-0.2	35.0
1,3-Dichlorobenzene	Lin2		2.003		9.96	10.0	-0.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-421403/17 Calibration Date: 07/08/2018 16:48  
 Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27  
 Lab File ID: MS9\_2369.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Lin2		1.938		10.2	10.0	2.4	35.0
n-Butylbenzene	Lin2		4.039		9.77	10.0	-2.3	35.0
1,2-Dichlorobenzene	Lin1		1.640		11.0	10.0	10.3	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0938	0.0936		9.97	10.0	-0.3	55.0
1,2,4-Trichlorobenzene	Lin1		1.275		10.7	10.0	7.2	35.0
Hexachlorobutadiene	Lin2		1.125		9.68	10.0	-3.2	35.0
Naphthalene	Lin2		1.417		9.77	10.0	-2.3	35.0
1,2,3-Trichlorobenzene	Lin1		1.048		11.1	10.0	11.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-421403/30 Calibration Date: 07/08/2018 19:14  
 Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 17:09  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 18:53  
 Lab File ID: MS9\_2376.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Lin1		0.0037		973	1000	-2.7	55.0
Ethanol	Lin2		0.1470		604	600	0.6	55.0
Propene oxide	Ave	0.0145	0.0130		899	1000	-10.1	
2-Propanol	Ave	0.9120	1.110		122	100	21.7	55.0
Acetonitrile	Ave	0.0129	0.0130		100	100	0.1	55.0
Di-isopropyl ether (DIPE)	Ave	0.2557	0.2574		10.1	10.0	0.6	35.0
Chloroprene	Ave	0.6303	0.6545		10.4	10.0	3.8	35.0
Tert-butyl ethyl ether	Ave	0.7119	0.7261		10.2	10.0	2.0	35.0
Ethyl acetate	Lin2		0.0950		20.6	20.0	2.8	55.0
Propionitrile	Ave	0.0145	0.0146		100	100	0.3	55.0
Methacrylonitrile	Ave	0.0649	0.0662		102	100	2.0	55.0
Tert-amyl methyl ether	Ave	0.5662	0.5683		10.0	10.0	0.4	35.0
n-Butanol	Ave	0.3981	0.4216		265	250	5.9	55.0
Methyl methacrylate	Ave	0.0369	0.0367		19.9	20.0	-0.6	35.0
2-Nitropropane	Lin2		0.0241		18.9	20.0	-5.4	55.0
Tetrahydrothiophene	Lin2		0.0448		25.2	20.0	25.8	55.0
cis-1,4-Dichloro-2-butene	Lin2		0.0715		16.8	20.0	-16.2	55.0
1,2,3-Trimethylbenzene	Lin1		3.292		11.2	10.0	11.6	35.0
1,3,5-Trichlorobenzene	Lin1		1.671		10.8	10.0	8.4	50.0
Dibromofluoromethane (Surr)	Ave	0.3255	0.3424		10.5	10.0	5.2	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2681	0.2892		10.8	10.0	7.9	35.0
Toluene-d8 (Surr)	Ave	4.519	4.625		10.2	10.0	2.3	35.0
4-Bromofluorobenzene (Surr)	Ave	1.057	1.074		10.2	10.0	1.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-423129/2 Calibration Date: 07/21/2018 09:07

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2796.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.6440	0.6497		10.1	10.0	0.9	50.0
Chloromethane	Lin1		0.5111	0.1000	9.60	10.0	-4.0	35.0
Vinyl chloride	Ave	0.6509	0.5597		8.60	10.0	-14.0	20.0
Bromomethane	Lin2		0.3820		9.42	10.0	-5.8	35.0
Chloroethane	Lin1		0.3120		10.6	10.0	5.6	35.0
Dichlorofluoromethane	Lin2		0.8039		10.1	10.0	0.9	50.0
Trichlorofluoromethane	Lin2		0.8552		10.6	10.0	6.4	50.0
Ethyl ether	Lin2		0.1349		8.42	10.0	-15.8	35.0
Acrolein	Lin2		0.0135		75.5	100	-24.5	50.0
Freon 113	Lin2		0.4062		9.93	10.0	-0.7	50.0
1,1-Dichloroethene	Lin2		0.3890		9.68	10.0	-3.2	20.0
Acetone	Lin2		0.0275		33.0	40.0	-17.4	50.0
Iodomethane	Ave	0.7085	0.6430		9.08	10.0	-9.2	35.0
Methyl acetate	Lin2		0.1021		26.8	20.0	33.9	50.0
Allyl chloride	Lin2		0.6098		9.69	10.0	-3.1	35.0
Carbon disulfide	Lin2		1.500		10.0	10.0	0.4	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0114	0.0082		71.5	100	-28.5	50.0
Methylene Chloride	Lin2		0.3251		10.0	10.0	0.3	35.0
Methyl tert-butyl ether	Lin2		0.4310		8.39	10.0	-16.1	35.0
trans-1,2-Dichloroethene	Lin2		0.4051		9.64	10.0	-3.6	35.0
Acrylonitrile	Lin2		0.0304		87.3	100	-12.7	50.0
Hexane	Lin2		2.378		9.37	10.0	-6.3	35.0
Vinyl acetate	Ave	0.2723	0.2077		15.3	20.0	-23.7	50.0
1,1-Dichloroethane	Lin2		0.6521	0.1000	9.93	10.0	-0.7	35.0
Methyl ethyl ketone (MEK)	Lin2		0.0443		33.4	40.0	-16.5	50.0
sec-Butyl Alcohol	Ave	1.097	0.9299		254	300	-15.2	50.0
2,2-Dichloropropane	Lin2		0.7166		11.2	10.0	11.9	35.0
cis-1,2-Dichloroethene	Lin2		0.3827		9.71	10.0	-2.9	35.0
Chloroform	Lin2		0.6318		10.0	10.0	0.0	20.0
Tetrahydrofuran	Ave	0.0337	0.0255		15.1	20.0	-24.5	50.0
Chlorobromomethane	Lin2		0.1409		9.25	10.0	-7.5	35.0
1,1,1-Trichloroethane	Lin2		0.7407		10.6	10.0	6.4	35.0
Isobutyl alcohol	Ave	1.164	1.135		244	250	-2.4	50.0
Cyclohexane	Ave	0.7826	0.7308		9.34	10.0	-6.6	35.0
1,1-Dichloropropene	Lin2		0.5761		9.82	10.0	-1.8	35.0
Carbon tetrachloride	Lin2		0.7018		10.9	10.0	8.5	35.0
Benzene	Lin2		1.288		9.57	10.0	-4.3	35.0
n-Heptane	Lin2		0.6715		9.78	10.0	-2.2	50.0
1,2-Dichloroethane	Lin2		0.3423		10.2	10.0	2.0	35.0
Trichloroethene	Lin2		0.4133		9.45	10.0	-5.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-423129/2 Calibration Date: 07/21/2018 09:07

Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27

Lab File ID: MS9\_2796.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Ave	0.0829	0.0611		29.5	40.0	-26.3	50.0
Methylcyclohexane	Ave	0.6599	0.6378		9.66	10.0	-3.4	35.0
1,2-Dichloropropane	Lin2		0.2966		9.42	10.0	-5.8	20.0
1,4-Dioxane	Ave	0.0014	0.0010		137	200	-31.3	50.0
Dibromomethane	Lin2		0.1287		9.29	10.0	-7.1	35.0
Dichlorobromomethane	Lin2		0.3986		9.85	10.0	-1.5	35.0
2-Chloroethyl vinyl ether	Ave	0.0992	0.0735		7.41	10.0	-25.9	50.0
cis-1,3-Dichloropropene	Ave	1.757	1.473		8.38	10.0	-16.2	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1025	0.0813		31.7	40.0	-20.7	50.0
Toluene	Lin2		1.433		9.98	10.0	-0.2	20.0
Ethyl methacrylate	Ave	0.7725	0.5777		7.48	10.0	-25.2	35.0
trans-1,3-Dichloropropene	Lin2		0.3170		9.50	10.0	-5.0	35.0
1,1,2-Trichloroethane	Lin2		0.1655		9.19	10.0	-8.1	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2600	0.2061		31.7	40.0	-20.7	50.0
Tetrachloroethene	Lin2		1.503		9.52	10.0	-4.8	35.0
1,3-Dichloropropane	Ave	1.210	1.031		8.52	10.0	-14.8	35.0
Chlorodibromomethane	Lin2		0.8885		9.25	10.0	-7.5	35.0
1,2-Dibromoethane	Lin2		0.6022		8.83	10.0	-11.7	35.0
1-Chlorohexane	Ave	2.482	2.179		8.78	10.0	-12.2	35.0
Chlorobenzene	Lin2		3.432	0.3000	9.43	10.0	-5.7	35.0
Ethylbenzene	Lin2		2.252		9.43	10.0	-5.7	20.0
1,1,1,2-Tetrachloroethane	Ave	1.434	1.270		8.86	10.0	-11.4	35.0
m-Xylene & p-Xylene	Lin2		5.144		9.87	10.0	-1.3	35.0
o-Xylene	Lin2		2.388		9.19	10.0	-8.1	35.0
Styrene	Ave	3.994	3.540		8.86	10.0	-11.4	35.0
Bromoform	Ave	0.5475	0.4757	0.1000	8.69	10.0	-13.1	35.0
Isopropylbenzene	Lin2		4.183		9.63	10.0	-3.7	35.0
Cyclohexanone	Ave	0.0140	0.0098		279	400	-30.3	50.0
1,1,2,2-Tetrachloroethane	Ave	0.4580	0.3884	0.3000	8.48	10.0	-15.2	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1705	0.1482		8.69	10.0	-13.1	50.0
N-Propylbenzene	Lin2		1.332		9.78	10.0	-2.2	35.0
1,2,3-Trichloropropane	Ave	0.1518	0.1311		8.64	10.0	-13.6	35.0
Bromobenzene	Lin1		0.9525		10.3	10.0	3.1	35.0
1,3,5-Trimethylbenzene	Lin2		3.511		9.73	10.0	-2.7	35.0
2-Chlorotoluene	Lin2		1.093		9.58	10.0	-4.2	35.0
4-Chlorotoluene	Lin2		1.073		9.32	10.0	-6.8	35.0
tert-Butylbenzene	Lin2		3.203		9.42	10.0	-5.8	35.0
1,2,4-Trimethylbenzene	Lin2		3.555		10.1	10.0	1.3	35.0
sec-Butylbenzene	Lin2		1.139		9.75	10.0	-2.5	35.0
4-Isopropyltoluene	Lin2		4.269		10.1	10.0	0.9	35.0
1,3-Dichlorobenzene	Lin2		1.915		9.51	10.0	-4.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-423129/2 Calibration Date: 07/21/2018 09:07  
 Instrument ID: VMS\_MS9 Calib Start Date: 07/08/2018 14:21  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/08/2018 16:27  
 Lab File ID: MS9\_2796.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dichlorobenzene	Lin2		1.822		9.61	10.0	-3.9	35.0
n-Butylbenzene	Lin2		4.155		10.1	10.0	0.6	35.0
1,2-Dichlorobenzene	Lin1		1.531		10.3	10.0	2.8	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0938	0.0718		7.66	10.0	-23.4	50.0
1,2,4-Trichlorobenzene	Lin1		1.113		9.26	10.0	-7.4	35.0
Hexachlorobutadiene	Lin2		1.142		9.83	10.0	-1.7	35.0
Naphthalene	Lin2		1.146		7.86	10.0	-21.4	35.0
1,2,3-Trichlorobenzene	Lin1		0.8873		9.28	10.0	-7.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-423129/2 Calibration Date: 07/21/2018 09:07  
Instrument ID: VMS\_MS9 Calib Start Date: 07/16/2018 23:11  
GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 07/17/2018 00:35  
Lab File ID: MS9\_2796.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.3005	0.3110		10.9	10.5	3.5	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2513	0.2648		11.1	10.5	5.4	35.0
Toluene-d8 (Surr)	Ave	4.275	4.426		10.9	10.5	3.5	35.0
4-Bromofluorobenzene (Surr)	Lin2		1.010		10.8	10.5	3.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
Instrument ID: VMS\_Q Calib Start Date: 06/22/2017 02:52  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/22/2017 04:37  
Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butanol	Ave	0.3936				250		



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
Instrument ID: VMS\_Q Calib Start Date: 04/11/2018 18:18  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 04/11/2018 20:02  
Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Lin					100	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-419807/25 Calibration Date: 06/25/2018 15:59  
 Instrument ID: VMS\_Q Calib Start Date: 06/25/2018 12:56  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/25/2018 15:14  
 Lab File ID: Q5018.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Qua		0.0023		1230	1000	23.2	55.0
Ethanol	Lin2		0.1579		749	600	24.8	55.0
Propene oxide	Ave	0.0118	0.0149		1260	1000	25.7	
2-Propanol	Lin1		0.7697		91.8	100	-8.2	55.0
Di-isopropyl ether (DIPE)	Ave	0.1622	0.1637		10.1	10.0	0.9	35.0
Chloroprene	Ave	0.4103	0.4391		10.7	10.0	7.0	35.0
Tert-butyl ethyl ether	Ave	0.4250	0.4373		10.3	10.0	2.9	35.0
Ethyl acetate	Ave	0.0477	0.0536		22.5	20.0	12.4	55.0
Propionitrile	Qua		0.0054		112	100	12.2	55.0
Methacrylonitrile	Ave	0.0406	0.0439		108	100	8.0	55.0
Tert-amyl methyl ether	Ave	0.3124	0.3197		10.2	10.0	2.3	35.0
Methyl methacrylate	Ave	0.0191	0.0187		19.6	20.0	-1.8	35.0
2-Nitropropane	Qua		0.0052		21.9	20.0	9.4	55.0
Tetrahydrothiophene	Ave	0.0494	0.0780		31.6	20.0	58.0*	55.0
cis-1,4-Dichloro-2-butene	Ave	0.1041	0.1004		19.3	20.0	-3.5	55.0
1,2,3-Trimethylbenzene	Ave	3.438	3.319		9.65	10.0	-3.5	35.0
1,3,5-Trichlorobenzene	Ave	1.171	1.012		8.64	10.0	-13.6	50.0
Dibromofluoromethane (Surr)	Ave	0.2287	0.2240		9.79	10.0	-2.1	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1652	0.1630		9.87	10.0	-1.3	35.0
Toluene-d8 (Surr)	Ave	5.858	5.554		9.48	10.0	-5.2	35.0
4-Bromofluorobenzene (Surr)	Ave	1.274	1.226		9.62	10.0	-3.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-422015/19 Calibration Date: 07/12/2018 17:11  
Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02  
Lab File ID: Q5632.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Lin1					10.0	-100.0*	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-422015/19 Calibration Date: 07/12/2018 17:11  
 Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
 Lab File ID: Q5632.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4887	0.4650		9.52	10.0	-4.8	55.0
Chloromethane	Ave	0.4715	0.4124	0.1000	8.75	10.0	-12.5	35.0
Vinyl chloride	Ave	0.3315	0.3194		9.63	10.0	-3.7	35.0
Bromomethane	Ave	0.2743	0.2563		9.34	10.0	-6.6	35.0
Chloroethane	Ave	0.2049	0.1922		9.38	10.0	-6.2	35.0
Dichlorofluoromethane	Ave	0.5994	0.6072		10.1	10.0	1.3	55.0
Trichlorofluoromethane	Ave	0.6662	0.6602		9.91	10.0	-0.9	50.0
Acrolein	Lin2		0.0106		91.6	100	-8.4	55.0
Acetone	Ave	0.0188	0.0175		37.1	40.0	-7.3	55.0
Vinyl acetate	Lin1		0.1957		21.1	20.0	5.6	55.0
Methyl ethyl ketone (MEK)	Ave	0.0312	0.0305		39.1	40.0	-2.2	55.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0660	0.0703		42.6	40.0	6.5	55.0
Methyl n-butyl ketone (MNBK)	Lin1		0.2040		40.8	40.0	1.9	55.0
Cyclohexanone	Lin1		0.0094		415	400	3.8	35.0
Dibromofluoromethane (Surr)	Ave	0.2448	0.2406		10.3	10.5	-1.7	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2355	0.2172		9.68	10.5	-7.8	35.0
Toluene-d8 (Surr)	Ave	5.874	5.720		10.2	10.5	-2.6	35.0
4-Bromofluorobenzene (Surr)	Ave	1.351	1.353		10.5	10.5	0.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-422281/12 Calibration Date: 07/16/2018 09:45

Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26

Lab File ID: Q5637.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethyl ether	Ave	0.0912	0.0799		8.76	10.0	-12.4	35.0
Freon 113	Ave	0.2266	0.2259		9.97	10.0	-0.3	55.0
1,1-Dichloroethene	Ave	0.3087	0.2965		9.61	10.0	-3.9	35.0
Iodomethane	Ave	0.3990	0.3895		9.76	10.0	-2.4	35.0
Methyl acetate	Lin1		0.0435		50.7	50.0	1.5	55.0
Allyl chloride	Ave	0.5025	0.4796		9.54	10.0	-4.6	35.0
Carbon disulfide	Ave	1.357	1.197		8.82	10.0	-11.8	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		1.323		106	100	6.0	55.0
Methylene Chloride	Lin2		0.2318		8.92	10.0	-10.8	35.0
Acrylonitrile	Lin2		0.0177		84.3	100	-15.7	55.0
Methyl tert-butyl ether	Ave	0.2590	0.2453		9.47	10.0	-5.3	35.0
trans-1,2-Dichloroethene	Ave	0.2949	0.2949		10.0	10.0	-0.0	35.0
Hexane	Ave	2.713	2.709		9.99	10.0	-0.1	35.0
1,1-Dichloroethane	Ave	0.5764	0.5630	0.1000	9.77	10.0	-2.3	35.0
sec-Butyl Alcohol	Ave	0.9332	0.9946		320	300	6.6	
cis-1,2-Dichloroethene	Ave	0.2830	0.2834		10.0	10.0	0.1	35.0
2,2-Dichloropropane	Ave	0.4383	0.3970		9.06	10.0	-9.4	35.0
Chlorobromomethane	Ave	0.0744	0.0743		9.99	10.0	-0.1	35.0
Chloroform	Ave	0.4990	0.5018		10.1	10.0	0.6	35.0
Tetrahydrofuran	Ave	0.0146	0.0139		19.0	20.0	-5.2	55.0
Isobutyl alcohol	Lin2		0.3085		233	250	-6.6	55.0
1,1,1-Trichloroethane	Ave	0.5197	0.5098		9.81	10.0	-1.9	35.0
Cyclohexane	Ave	0.6574	0.6512		9.91	10.0	-0.9	35.0
1,1-Dichloropropene	Ave	0.5170	0.5442		10.5	10.0	5.3	35.0
Carbon tetrachloride	Ave	0.4318	0.4312		9.98	10.0	-0.2	35.0
1,2-Dichloroethane	Ave	0.2533	0.2380		9.39	10.0	-6.1	35.0
Benzene	Ave	1.241	1.269		10.2	10.0	2.3	35.0
n-Heptane	Ave	0.6804	0.7173		10.5	10.0	5.4	50.0
Trichloroethene	Ave	0.3484	0.3571		10.2	10.0	2.5	35.0
2-Pentanone	Lin1		0.0399		34.3	40.0	-14.2	55.0
1,2-Dichloropropane	Ave	0.2924	0.2947		10.1	10.0	0.8	35.0
Methylcyclohexane	Ave	0.5510	0.5501		9.98	10.0	-0.2	35.0
1,4-Dioxane	Lin2		0.0006		177	200	-11.5	55.0
Dibromomethane	Ave	0.0865	0.0823		9.51	10.0	-4.9	35.0
Dichlorobromomethane	Ave	0.3067	0.2995		9.77	10.0	-2.3	35.0
cis-1,3-Dichloropropene	Lin2		1.594		10.1	10.0	0.6	35.0
Toluene	Ave	1.378	1.433		10.4	10.0	4.0	35.0
Ethyl methacrylate	Lin1		0.5273		8.73	10.0	-12.7	35.0
trans-1,3-Dichloropropene	Lin1		0.2376		8.93	10.0	-10.7	35.0
1,1,2-Trichloroethane	Ave	0.1218	0.1184		9.72	10.0	-2.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-422281/12 Calibration Date: 07/16/2018 09:45  
 Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
 Lab File ID: Q5637.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dichloropropane	Ave	1.062	1.012		9.52	10.0	-4.8	35.0
Tetrachloroethene	Ave	1.144	1.176		10.3	10.0	2.8	35.0
Chlorodibromomethane	Lin1		0.5619		8.42	10.0	-15.8	35.0
1,2-Dibromoethane	Ave	0.4436	0.4322		9.74	10.0	-2.6	35.0
1-Chlorohexane	Ave	2.358	2.607		11.1	10.0	10.6	35.0
Chlorobenzene	Ave	3.350	3.342	0.3000	9.98	10.0	-0.2	35.0
1,1,1,2-Tetrachloroethane	Lin2		0.9394		9.89	10.0	-1.1	35.0
Ethylbenzene	Ave	2.146	2.266		10.6	10.0	5.6	35.0
m-Xylene & p-Xylene	Ave	2.600	2.623		10.1	10.0	0.9	35.0
o-Xylene	Ave	2.122	2.297		10.8	10.0	8.2	35.0
Styrene	Lin2		3.335		10.0	10.0	0.0	35.0
Bromoform	Lin2		0.2101	0.1000	8.59	10.0	-14.1	35.0
Isopropylbenzene	Ave	5.248	5.447		10.4	10.0	3.8	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4147	0.3667	0.3000	8.84	10.0	-11.6	35.0
trans-1,4-Dichloro-2-butene	Lin2		0.0656		8.19	10.0	-18.1	55.0
1,2,3-Trichloropropane	Ave	0.0946	0.0898		9.49	10.0	-5.1	35.0
N-Propylbenzene	Ave	1.454	1.512		10.4	10.0	4.0	35.0
Bromobenzene	Ave	0.8200	0.7869		9.60	10.0	-4.0	35.0
1,3,5-Trimethylbenzene	Ave	4.004	4.163		10.4	10.0	4.0	35.0
2-Chlorotoluene	Ave	1.115	1.119		10.0	10.0	0.3	35.0
4-Chlorotoluene	Ave	1.097	1.106		10.1	10.0	0.8	35.0
tert-Butylbenzene	Ave	4.109	4.179		10.2	10.0	1.7	35.0
1,2,4-Trimethylbenzene	Ave	3.931	3.882		9.87	10.0	-1.3	35.0
sec-Butylbenzene	Ave	1.087	1.099		10.1	10.0	1.2	35.0
4-Isopropyltoluene	Ave	4.466	4.544		10.2	10.0	1.8	35.0
1,3-Dichlorobenzene	Ave	1.675	1.602		9.56	10.0	-4.4	35.0
1,4-Dichlorobenzene	Ave	1.668	1.582		9.48	10.0	-5.2	35.0
n-Butylbenzene	Ave	4.790	4.817		10.1	10.0	0.6	35.0
1,2-Dichlorobenzene	Ave	1.256	1.196		9.52	10.0	-4.8	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0343		8.31	10.0	-16.9	55.0
1,2,4-Trichlorobenzene	Ave	0.7070	0.6944		9.82	10.0	-1.8	35.0
Hexachlorobutadiene	Ave	0.6844	0.6933		10.1	10.0	1.3	35.0
Naphthalene	Lin2		0.7560		8.73	10.0	-12.7	35.0
1,2,3-Trichlorobenzene	Ave	0.5007	0.4821		9.63	10.0	-3.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-423349/3 Calibration Date: 07/24/2018 06:16  
Instrument ID: VMS\_Q Calib Start Date: 06/22/2017 02:52  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/22/2017 04:37  
Lab File ID: Q5920.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butanol	Ave	0.3936	0.1568		89.7	250	-60.2*	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-423349/3 Calibration Date: 07/24/2018 06:16  
Instrument ID: VMS\_Q Calib Start Date: 04/11/2018 18:18  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 04/11/2018 20:02  
Lab File ID: Q5920.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Acetonitrile	Lin		0.0027		39.2	100	-60.8*	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-423349/3 Calibration Date: 07/24/2018 06:16  
 Instrument ID: VMS\_Q Calib Start Date: 06/25/2018 12:56  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/25/2018 15:14  
 Lab File ID: Q5920.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Qua		0.0007		334	1000	-66.6*	50.0
Ethanol	Lin2		0.0983		433	600	-27.8	50.0
Propene oxide	Ave	0.0118	0.0063		533	1000	-46.7	50.0
2-Propanol	Lin1		0.8350		99.4	100	-0.6	50.0
Di-isopropyl ether (DIPE)	Ave	0.1622	0.1245		7.67	10.0	-23.3	35.0
Chloroprene	Ave	0.4103	0.4501		11.0	10.0	9.7	35.0
Tert-butyl ethyl ether	Ave	0.4250	0.3123		7.35	10.0	-26.5	35.0
Ethyl acetate	Ave	0.0477	0.0423		17.7	20.0	-11.4	50.0
Propionitrile	Qua		0.0033		74.0	100	-26.0	50.0
Methacrylonitrile	Ave	0.0406	0.0277		68.1	100	-31.9	50.0
Tert-amyl methyl ether	Ave	0.3124	0.2347		7.51	10.0	-24.9	35.0
Methyl methacrylate	Ave	0.0191	0.0165		17.3	20.0	-13.5	35.0
2-Nitropropane	Qua		0.0084		34.7	20.0	73.6*	50.0
Tetrahydrothiophene	Ave	0.0494	0.0150		6.09	20.0	-69.6*	50.0
cis-1,4-Dichloro-2-butene	Ave	0.1041	0.0572		11.0	20.0	-45.0	50.0
1,2,3-Trimethylbenzene	Ave	3.438	3.714		10.8	10.0	8.0	35.0
1,3,5-Trichlorobenzene	Ave	1.171	1.390		11.9	10.0	18.6	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-423349/3 Calibration Date: 07/24/2018 06:16  
Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
Lab File ID: Q5920.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Ave	0.2448	0.2270		9.27	10.0	-7.3	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2355	0.1805		7.66	10.0	-23.4	35.0
Toluene-d8 (Surr)	Ave	5.874	5.689		9.69	10.0	-3.1	35.0
4-Bromofluorobenzene (Surr)	Ave	1.351	1.323		9.79	10.0	-2.1	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-423349/2 Calibration Date: 07/24/2018 06:39  
Instrument ID: VMS\_Q Calib Start Date: 06/26/2018 14:23  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 06/26/2018 17:02  
Lab File ID: Q5921.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloroethyl vinyl ether	Lin1		0.0010			10.0	-100.0*	50.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-423349/2 Calibration Date: 07/24/2018 06:39

Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26

Lab File ID: Q5921.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4887	0.4570		9.35	10.0	-6.5	50.0
Chloromethane	Ave	0.4715	0.3283	0.1000	6.96	10.0	-30.4	35.0
Vinyl chloride	Ave	0.3315	0.2665		8.04	10.0	-19.6	20.0
Bromomethane	Ave	0.2743	0.2142		7.81	10.0	-21.9	35.0
Chloroethane	Ave	0.2049	0.1602		7.82	10.0	-21.8	35.0
Dichlorofluoromethane	Ave	0.5994	0.4977		8.30	10.0	-17.0	50.0
Trichlorofluoromethane	Ave	0.6662	0.5993		8.99	10.0	-10.1	50.0
Ethyl ether	Ave	0.0912	0.0642		7.04	10.0	-29.6	35.0
Acrolein	Lin2		0.0088		76.1	100	-23.9	50.0
Acetone	Ave	0.0188	0.0127		27.0	40.0	-32.5	50.0
Freon 113	Ave	0.2266	0.2506		11.1	10.0	10.6	50.0
1,1-Dichloroethene	Ave	0.3087	0.3062		9.92	10.0	-0.8	20.0
Iodomethane	Ave	0.3990	0.4224		10.6	10.0	5.9	35.0
Methyl acetate	Lin1		0.0358		16.1	20.0	-19.7	50.0
Allyl chloride	Ave	0.5025	0.3592		7.15	10.0	-28.5	35.0
Tert-butyl alcohol (2-methyl-2-propanol)	Lin2		1.260		101	100	1.0	50.0
Methylene Chloride	Lin2		0.2343		9.02	10.0	-9.8	35.0
Carbon disulfide	Ave	1.357	1.311		9.66	10.0	-3.4	50.0
Acrylonitrile	Lin2		0.0159		76.4	100	-23.6	50.0
Methyl tert-butyl ether	Ave	0.2590	0.2347		9.06	10.0	-9.4	35.0
trans-1,2-Dichloroethene	Ave	0.2949	0.2892		9.81	10.0	-1.9	35.0
Hexane	Ave	2.713	2.356		8.68	10.0	-13.2	35.0
Vinyl acetate	Lin1		0.1204		13.1	20.0	-34.3	50.0
1,1-Dichloroethane	Ave	0.5764	0.4951	0.1000	8.59	10.0	-14.1	35.0
Methyl ethyl ketone (MEK)	Ave	0.0312	0.0206		26.4	40.0	-33.9	50.0
sec-Butyl Alcohol	Ave	0.9332	0.8020		258	300	-14.1	50.0
cis-1,2-Dichloroethene	Ave	0.2830	0.2748		9.71	10.0	-2.9	35.0
2,2-Dichloropropane	Ave	0.4383	0.4022		9.18	10.0	-8.2	35.0
Chlorobromomethane	Ave	0.0744	0.0754		10.1	10.0	1.3	35.0
Chloroform	Ave	0.4990	0.4647		9.31	10.0	-6.9	20.0
Tetrahydrofuran	Ave	0.0146	0.0103		14.0	20.0	-30.0	50.0
Isobutyl alcohol	Lin2		0.2765		211	250	-15.6	50.0
1,1,1-Trichloroethane	Ave	0.5197	0.5254		10.1	10.0	1.1	35.0
Cyclohexane	Ave	0.6574	0.5899		8.97	10.0	-10.3	35.0
1,1-Dichloropropene	Ave	0.5170	0.4748		9.18	10.0	-8.2	35.0
Carbon tetrachloride	Ave	0.4318	0.4747		11.0	10.0	9.9	35.0
1,2-Dichloroethane	Ave	0.2533	0.2104		8.31	10.0	-16.9	35.0
Benzene	Ave	1.241	1.172		9.44	10.0	-5.6	35.0
n-Heptane	Ave	0.6804	0.5157		7.58	10.0	-24.2	50.0
Trichloroethene	Ave	0.3484	0.3344		9.60	10.0	-4.0	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-423349/2 Calibration Date: 07/24/2018 06:39

Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26

Lab File ID: Q5921.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Pentanone	Lin1		0.0336		29.0	40.0	-27.5	50.0
1,2-Dichloropropane	Ave	0.2924	0.2523		8.63	10.0	-13.7	20.0
Methylcyclohexane	Ave	0.5510	0.5083		9.22	10.0	-7.8	35.0
1,4-Dioxane	Lin2		0.0006		168	200	-16.0	50.0
Dibromomethane	Ave	0.0865	0.0811		9.37	10.0	-6.3	35.0
Dichlorobromomethane	Ave	0.3067	0.2899		9.45	10.0	-5.5	35.0
cis-1,3-Dichloropropene	Lin2		1.465		9.25	10.0	-7.5	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0660	0.0487		29.5	40.0	-26.2	50.0
Toluene	Ave	1.378	1.377		9.99	10.0	-0.0	20.0
Ethyl methacrylate	Lin1		0.5195		8.61	10.0	-13.9	35.0
trans-1,3-Dichloropropene	Lin1		0.2245		8.45	10.0	-15.5	35.0
1,1,2-Trichloroethane	Ave	0.1218	0.1175		9.64	10.0	-3.6	35.0
Methyl n-butyl ketone (MNBK)	Lin1		0.1367		27.6	40.0	-31.1	50.0
1,3-Dichloropropane	Ave	1.062	1.018		9.58	10.0	-4.2	35.0
Tetrachloroethene	Ave	1.144	1.263		11.0	10.0	10.4	35.0
Chlorodibromomethane	Lin1		0.6214		9.30	10.0	-7.0	35.0
1,2-Dibromoethane	Ave	0.4436	0.4665		10.5	10.0	5.2	35.0
1-Chlorohexane	Ave	2.358	2.619		11.1	10.0	11.1	35.0
Chlorobenzene	Ave	3.350	3.498	0.3000	10.4	10.0	4.4	35.0
1,1,1,2-Tetrachloroethane	Lin2		1.009		10.6	10.0	6.2	35.0
Ethylbenzene	Ave	2.146	2.351		11.0	10.0	9.5	20.0
m-Xylene & p-Xylene	Ave	2.600	2.809		10.8	10.0	8.0	35.0
o-Xylene	Ave	2.122	2.426		11.4	10.0	14.3	35.0
Styrene	Lin2		3.534		10.6	10.0	6.0	35.0
Bromoform	Lin2		0.2643	0.1000	10.7	10.0	7.0	35.0
Isopropylbenzene	Ave	5.248	5.529		10.5	10.0	5.4	35.0
Cyclohexanone	Lin1		0.0069		307	400	-23.2	50.0
1,1,2,2-Tetrachloroethane	Ave	0.4147	0.3848	0.3000	9.28	10.0	-7.2	35.0
trans-1,4-Dichloro-2-butene	Lin2		0.0595		7.50	10.0	-25.0	50.0
1,2,3-Trichloropropane	Ave	0.0946	0.0938		9.91	10.0	-0.9	35.0
Bromobenzene	Ave	0.8200	0.8743		10.7	10.0	6.6	35.0
N-Propylbenzene	Ave	1.454	1.539		10.6	10.0	5.9	35.0
1,3,5-Trimethylbenzene	Ave	4.004	4.328		10.8	10.0	8.1	35.0
2-Chlorotoluene	Ave	1.115	1.176		10.5	10.0	5.5	35.0
4-Chlorotoluene	Ave	1.097	1.135		10.3	10.0	3.4	35.0
tert-Butylbenzene	Ave	4.109	4.361		10.6	10.0	6.1	35.0
1,2,4-Trimethylbenzene	Ave	3.931	4.027		10.2	10.0	2.4	35.0
sec-Butylbenzene	Ave	1.087	1.182		10.9	10.0	8.8	35.0
4-Isopropyltoluene	Ave	4.466	4.839		10.8	10.0	8.3	35.0
1,3-Dichlorobenzene	Ave	1.675	1.796		10.7	10.0	7.2	35.0
1,4-Dichlorobenzene	Ave	1.668	1.732		10.4	10.0	3.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-423349/2 Calibration Date: 07/24/2018 06:39  
 Instrument ID: VMS\_Q Calib Start Date: 07/12/2018 13:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 07/12/2018 16:26  
 Lab File ID: Q5921.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
n-Butylbenzene	Ave	4.790	5.030		10.5	10.0	5.0	35.0
1,2-Dichlorobenzene	Ave	1.256	1.341		10.7	10.0	6.7	35.0
1,2-Dibromo-3-Chloropropane	Lin2		0.0426		10.1	10.0	1.5	50.0
1,2,4-Trichlorobenzene	Ave	0.7070	0.8488		12.0	10.0	20.0	35.0
Hexachlorobutadiene	Ave	0.6844	0.8858		12.9	10.0	29.4	35.0
Naphthalene	Lin2		0.8715		10.0	10.0	0.0	35.0
1,2,3-Trichlorobenzene	Ave	0.5007	0.5870		11.7	10.0	17.2	35.0



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-423129/6  
 Matrix: Water Lab File ID: MS9\_2799.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/21/2018 10:10  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423129 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
100-42-5	Styrene	ND		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
127-18-4	Tetrachloroethene	ND		1.0	0.20
95-47-6	o-Xylene	ND		1.0	0.19
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
2037-26-5	Toluene-d8 (Surr)	103		80-125
460-00-4	4-Bromofluorobenzene (Surr)	110		78-120
1868-53-7	Dibromofluoromethane (Surr)	103		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-423341/3-A  
 Matrix: Solid Lab File ID: G2\_5703.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5(g) Date Analyzed: 07/23/2018 23:31  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423345 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	ND		5.0	0.21
107-06-2	1,2-Dichloroethane	ND		5.0	0.70
78-93-3	Methyl ethyl ketone (MEK)	ND		20	1.8
67-64-1	Acetone	ND		20	5.4
75-35-4	1,1-Dichloroethene	ND		5.0	0.59
71-43-2	Benzene	ND		5.0	0.47
75-00-3	Chloroethane	ND		10	0.89
156-59-2	cis-1,2-Dichloroethene	ND		2.5	0.56
100-41-4	Ethylbenzene	ND		5.0	0.67
75-09-2	Methylene Chloride	ND		5.0	1.6
71-55-6	1,1,1-Trichloroethane	ND		5.0	0.52
100-42-5	Styrene	ND		5.0	0.63
179601-23-1	m-Xylene & p-Xylene	ND		2.5	1.0
127-18-4	Tetrachloroethene	ND		5.0	0.59
95-47-6	o-Xylene	ND		2.5	0.61
108-88-3	Toluene	ND		5.0	0.69
156-60-5	trans-1,2-Dichloroethene	ND		2.5	0.39
79-01-6	Trichloroethene	ND		5.0	0.23
75-01-4	Vinyl chloride	ND		5.0	1.3
1330-20-7	Xylenes, Total	ND		5.0	0.61

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	92		58-140
2037-26-5	Toluene-d8 (Surr)	92		80-126
460-00-4	4-Bromofluorobenzene (Surr)	87		76-127
1868-53-7	Dibromofluoromethane (Surr)	89		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>MB 280-423349/6</u>
Matrix: <u>Water</u>	Lab File ID: <u>Q5923.D</u>
Analysis Method: <u>8260B</u>	Date Collected: _____
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/24/2018 07:39</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423349</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
100-42-5	Styrene	ND		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
127-18-4	Tetrachloroethene	ND		1.0	0.20
95-47-6	o-Xylene	ND		1.0	0.19
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	84		70-127
2037-26-5	Toluene-d8 (Surr)	104		80-125
460-00-4	4-Bromofluorobenzene (Surr)	109		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-423129/4

Matrix: Water Lab File ID: MS9\_2798.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 07/21/2018 09:49

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 423129 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	5.06		1.0	0.22
107-06-2	1,2-Dichloroethane	5.35		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	17.6		6.0	2.0
67-64-1	Acetone	15.5		10	1.9
75-35-4	1,1-Dichloroethene	4.82		1.0	0.23
71-43-2	Benzene	4.88		1.0	0.16
75-00-3	Chloroethane	4.87		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.90		1.0	0.15
100-41-4	Ethylbenzene	4.99		1.0	0.16
75-09-2	Methylene Chloride	5.24		2.0	0.32
71-55-6	1,1,1-Trichloroethane	5.31		1.0	0.16
100-42-5	Styrene	4.41		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	5.14		2.0	0.34
127-18-4	Tetrachloroethene	5.00		1.0	0.20
95-47-6	o-Xylene	4.73		1.0	0.19
108-88-3	Toluene	5.17		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.02		1.0	0.15
79-01-6	Trichloroethene	4.88		1.0	0.16
75-01-4	Vinyl chloride	3.83		1.0	0.10
1330-20-7	Xylenes, Total	9.87		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		70-127
2037-26-5	Toluene-d8 (Surr)	107		80-125
460-00-4	4-Bromofluorobenzene (Surr)	105		78-120
1868-53-7	Dibromofluoromethane (Surr)	102		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-423341/1-A  
 Matrix: Solid Lab File ID: G2\_5700.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5(g) Date Analyzed: 07/23/2018 22:29  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423345 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	51.8		5.0	0.21
107-06-2	1,2-Dichloroethane	52.4		5.0	0.70
78-93-3	Methyl ethyl ketone (MEK)	180		20	1.8
67-64-1	Acetone	216		20	5.4
75-35-4	1,1-Dichloroethene	50.0		5.0	0.59
71-43-2	Benzene	48.8		5.0	0.47
75-00-3	Chloroethane	54.4		10	0.89
156-59-2	cis-1,2-Dichloroethene	50.3		2.5	0.56
100-41-4	Ethylbenzene	47.8		5.0	0.67
75-09-2	Methylene Chloride	51.8		5.0	1.6
71-55-6	1,1,1-Trichloroethane	52.3		5.0	0.52
100-42-5	Styrene	49.4		5.0	0.63
179601-23-1	m-Xylene & p-Xylene	45.9		2.5	1.0
127-18-4	Tetrachloroethene	46.6		5.0	0.59
95-47-6	o-Xylene	48.5		2.5	0.61
108-88-3	Toluene	48.5		5.0	0.69
156-60-5	trans-1,2-Dichloroethene	52.6		2.5	0.39
79-01-6	Trichloroethene	49.8		5.0	0.23
75-01-4	Vinyl chloride	47.4		5.0	1.3
1330-20-7	Xylenes, Total	94.4		5.0	0.61

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	91		58-140
2037-26-5	Toluene-d8 (Surr)	95		80-126
460-00-4	4-Bromofluorobenzene (Surr)	87		76-127
1868-53-7	Dibromofluoromethane (Surr)	94		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-423349/4  
 Matrix: Water Lab File ID: Q5922.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/24/2018 07:02  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423349 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	4.04		1.0	0.22
107-06-2	1,2-Dichloroethane	3.81		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	13.2		6.0	2.0
67-64-1	Acetone	13.4		10	1.9
75-35-4	1,1-Dichloroethene	4.07		1.0	0.23
71-43-2	Benzene	4.30		1.0	0.16
75-00-3	Chloroethane	3.19		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.44		1.0	0.15
100-41-4	Ethylbenzene	4.81		1.0	0.16
75-09-2	Methylene Chloride	3.62		2.0	0.32
71-55-6	1,1,1-Trichloroethane	4.17		1.0	0.16
100-42-5	Styrene	4.63		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	4.79		2.0	0.34
127-18-4	Tetrachloroethene	5.24		1.0	0.20
95-47-6	o-Xylene	5.08		1.0	0.19
108-88-3	Toluene	4.39		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.49		1.0	0.15
79-01-6	Trichloroethene	4.40		1.0	0.16
75-01-4	Vinyl chloride	3.18		1.0	0.10
1330-20-7	Xylenes, Total	9.87		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	77		70-127
2037-26-5	Toluene-d8 (Surr)	93		80-125
460-00-4	4-Bromofluorobenzene (Surr)	97		78-120
1868-53-7	Dibromofluoromethane (Surr)	91		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-423341/2-A  
 Matrix: Solid Lab File ID: G2\_5701.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5(g) Date Analyzed: 07/23/2018 22:50  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423345 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	50.0		5.0	0.21
107-06-2	1,2-Dichloroethane	52.3		5.0	0.70
78-93-3	Methyl ethyl ketone (MEK)	182		20	1.8
67-64-1	Acetone	215		20	5.4
75-35-4	1,1-Dichloroethene	47.4		5.0	0.59
71-43-2	Benzene	47.2		5.0	0.47
75-00-3	Chloroethane	51.3		10	0.89
156-59-2	cis-1,2-Dichloroethene	49.1		2.5	0.56
100-41-4	Ethylbenzene	46.9		5.0	0.67
75-09-2	Methylene Chloride	50.7		5.0	1.6
71-55-6	1,1,1-Trichloroethane	49.7		5.0	0.52
100-42-5	Styrene	49.4		5.0	0.63
179601-23-1	m-Xylene & p-Xylene	45.4		2.5	1.0
127-18-4	Tetrachloroethene	45.5		5.0	0.59
95-47-6	o-Xylene	48.2		2.5	0.61
108-88-3	Toluene	46.6		5.0	0.69
156-60-5	trans-1,2-Dichloroethene	50.2		2.5	0.39
79-01-6	Trichloroethene	47.8		5.0	0.23
75-01-4	Vinyl chloride	44.6		5.0	1.3
1330-20-7	Xylenes, Total	93.6		5.0	0.61

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		58-140
2037-26-5	Toluene-d8 (Surr)	96		80-126
460-00-4	4-Bromofluorobenzene (Surr)	89		76-127
1868-53-7	Dibromofluoromethane (Surr)	92		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-212 MS</u>	Lab Sample ID: <u>280-111956-6 MS</u>
Matrix: <u>Solid</u>	Lab File ID: <u>G2_5719.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 07:05</u>
Sample wt/vol: <u>6.07(g)</u>	Date Analyzed: <u>07/24/2018 04:58</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423345</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	202		16	4.4
71-43-2	Benzene	32.7		4.1	0.39
78-93-3	Methyl ethyl ketone (MEK)	181		16	1.5
75-00-3	Chloroethane	37.3		8.2	0.73
75-34-3	1,1-Dichloroethane	43.4		4.1	0.17
107-06-2	1,2-Dichloroethane	37.0		4.1	0.58
156-59-2	cis-1,2-Dichloroethene	33.3		2.1	0.46
156-60-5	trans-1,2-Dichloroethene	35.2		2.1	0.32
75-35-4	1,1-Dichloroethene	34.4		4.1	0.49
100-41-4	Ethylbenzene	29.1		4.1	0.55
75-09-2	Methylene Chloride	35.6		4.1	1.3
100-42-5	Styrene	24.4		4.1	0.52
127-18-4	Tetrachloroethene	29.4		4.1	0.49
108-88-3	Toluene	30.9		4.1	0.57
71-55-6	1,1,1-Trichloroethane	35.6		4.1	0.43
79-01-6	Trichloroethene	32.0		4.1	0.19
75-01-4	Vinyl chloride	35.0		4.1	1.1
179601-23-1	m-Xylene & p-Xylene	27.9		2.1	0.86
95-47-6	o-Xylene	29.5		2.1	0.50
1330-20-7	Xylenes, Total	57.4		4.1	0.50

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		58-140
2037-26-5	Toluene-d8 (Surr)	94		80-126
460-00-4	4-Bromofluorobenzene (Surr)	88		76-127
1868-53-7	Dibromofluoromethane (Surr)	97		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-112000-B-2 MS

Matrix: Water Lab File ID: MS9\_2806.D

Analysis Method: 8260B Date Collected: 07/11/2018 11:12

Sample wt/vol: 20 (mL) Date Analyzed: 07/21/2018 12:42

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 423129 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	4.96		1.0	0.22
107-06-2	1,2-Dichloroethane	5.18		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	18.1		6.0	2.0
67-64-1	Acetone	20.4		10	1.9
75-35-4	1,1-Dichloroethene	4.59		1.0	0.23
71-43-2	Benzene	4.87		1.0	0.16
75-00-3	Chloroethane	5.36		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.77		1.0	0.15
100-41-4	Ethylbenzene	4.56		1.0	0.16
75-09-2	Methylene Chloride	4.99		2.0	0.32
71-55-6	1,1,1-Trichloroethane	5.22		1.0	0.16
100-42-5	Styrene	4.18		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	4.92		2.0	0.34
127-18-4	Tetrachloroethene	4.61		1.0	0.20
95-47-6	o-Xylene	4.45		1.0	0.19
108-88-3	Toluene	5.21		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.79		1.0	0.15
79-01-6	Trichloroethene	4.75		1.0	0.16
75-01-4	Vinyl chloride	4.23		1.0	0.10
1330-20-7	Xylenes, Total	9.37		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
2037-26-5	Toluene-d8 (Surr)	101		80-125
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	103		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-112045-D-1 MS

Matrix: Water Lab File ID: Q5932.D

Analysis Method: 8260B Date Collected: 07/16/2018 10:16

Sample wt/vol: 20 (mL) Date Analyzed: 07/24/2018 11:06

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 423349 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	4.31		1.0	0.22
107-06-2	1,2-Dichloroethane	4.23		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	13.2		6.0	2.0
67-64-1	Acetone	15.2		10	1.9
75-35-4	1,1-Dichloroethene	4.51		1.0	0.23
71-43-2	Benzene	4.67		1.0	0.16
75-00-3	Chloroethane	3.09		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.56		1.0	0.15
100-41-4	Ethylbenzene	4.92		1.0	0.16
75-09-2	Methylene Chloride	34.5		2.0	0.32
71-55-6	1,1,1-Trichloroethane	5.03		1.0	0.16
100-42-5	Styrene	4.79		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	4.83		2.0	0.34
127-18-4	Tetrachloroethene	5.24		1.0	0.20
95-47-6	o-Xylene	5.31		1.0	0.19
108-88-3	Toluene	4.96		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.78		1.0	0.15
79-01-6	Trichloroethene	4.54		1.0	0.16
75-01-4	Vinyl chloride	3.09		1.0	0.10
1330-20-7	Xylenes, Total	10.1		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	79		70-127
2037-26-5	Toluene-d8 (Surr)	95		80-125
460-00-4	4-Bromofluorobenzene (Surr)	91		78-120
1868-53-7	Dibromofluoromethane (Surr)	92		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-212 MSD</u>	Lab Sample ID: <u>280-111956-6 MSD</u>
Matrix: <u>Solid</u>	Lab File ID: <u>G2_5720.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/12/2018 07:05</u>
Sample wt/vol: <u>6.447(g)</u>	Date Analyzed: <u>07/24/2018 05:18</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423345</u>	Units: <u>ug/Kg</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
67-64-1	Acetone	183		16	4.2
71-43-2	Benzene	30.8		3.9	0.36
78-93-3	Methyl ethyl ketone (MEK)	177		16	1.4
75-00-3	Chloroethane	33.0		7.8	0.69
75-34-3	1,1-Dichloroethane	41.3		3.9	0.16
107-06-2	1,2-Dichloroethane	34.7		3.9	0.54
156-59-2	cis-1,2-Dichloroethene	31.7		1.9	0.43
156-60-5	trans-1,2-Dichloroethene	33.5		1.9	0.30
75-35-4	1,1-Dichloroethene	32.6		3.9	0.46
100-41-4	Ethylbenzene	27.2		3.9	0.52
75-09-2	Methylene Chloride	33.4		3.9	1.2
100-42-5	Styrene	22.2		3.9	0.49
127-18-4	Tetrachloroethene	27.4		3.9	0.46
108-88-3	Toluene	29.0		3.9	0.54
71-55-6	1,1,1-Trichloroethane	33.3		3.9	0.40
79-01-6	Trichloroethene	29.7		3.9	0.18
75-01-4	Vinyl chloride	31.5		3.9	1.0
179601-23-1	m-Xylene & p-Xylene	26.0		1.9	0.81
95-47-6	o-Xylene	27.0		1.9	0.47
1330-20-7	Xylenes, Total	53.0		3.9	0.47

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		58-140
2037-26-5	Toluene-d8 (Surr)	94		80-126
460-00-4	4-Bromofluorobenzene (Surr)	90		76-127
1868-53-7	Dibromofluoromethane (Surr)	97		75-121



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-112000-B-2 MSD  
 Matrix: Water Lab File ID: MS9\_2807.D  
 Analysis Method: 8260B Date Collected: 07/11/2018 11:12  
 Sample wt/vol: 20 (mL) Date Analyzed: 07/21/2018 13:03  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 423129 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	4.98		1.0	0.22
107-06-2	1,2-Dichloroethane	5.22		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	19.6		6.0	2.0
67-64-1	Acetone	20.4		10	1.9
75-35-4	1,1-Dichloroethene	4.59		1.0	0.23
71-43-2	Benzene	4.82		1.0	0.16
75-00-3	Chloroethane	5.51		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.84		1.0	0.15
100-41-4	Ethylbenzene	4.47		1.0	0.16
75-09-2	Methylene Chloride	5.13		2.0	0.32
71-55-6	1,1,1-Trichloroethane	5.17		1.0	0.16
100-42-5	Styrene	4.09		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	4.77		2.0	0.34
127-18-4	Tetrachloroethene	4.39		1.0	0.20
95-47-6	o-Xylene	4.46		1.0	0.19
108-88-3	Toluene	5.10		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.72		1.0	0.15
79-01-6	Trichloroethene	4.50		1.0	0.16
75-01-4	Vinyl chloride	4.39		1.0	0.10
1330-20-7	Xylenes, Total	9.23		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		70-127
2037-26-5	Toluene-d8 (Surr)	102		80-125
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	104		77-120



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-112045-D-1 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>Q5933.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>07/16/2018 10:16</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>07/24/2018 11:28</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>423349</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-34-3	1,1-Dichloroethane	4.24		1.0	0.22
107-06-2	1,2-Dichloroethane	4.17		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	12.7		6.0	2.0
67-64-1	Acetone	15.6		10	1.9
75-35-4	1,1-Dichloroethene	4.73		1.0	0.23
71-43-2	Benzene	4.67		1.0	0.16
75-00-3	Chloroethane	3.26		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.71		1.0	0.15
100-41-4	Ethylbenzene	5.15		1.0	0.16
75-09-2	Methylene Chloride	35.1		2.0	0.32
71-55-6	1,1,1-Trichloroethane	4.98		1.0	0.16
100-42-5	Styrene	4.87		1.0	0.17
179601-23-1	m-Xylene & p-Xylene	5.03		2.0	0.34
127-18-4	Tetrachloroethene	5.25		1.0	0.20
95-47-6	o-Xylene	5.39		1.0	0.19
108-88-3	Toluene	4.94		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.96		1.0	0.15
79-01-6	Trichloroethene	4.57		1.0	0.16
75-01-4	Vinyl chloride	3.17		1.0	0.10
1330-20-7	Xylenes, Total	10.4		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	82		70-127
2037-26-5	Toluene-d8 (Surr)	94		80-125
460-00-4	4-Bromofluorobenzene (Surr)	96		78-120
1868-53-7	Dibromofluoromethane (Surr)	94		77-120



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2Start Date: 07/19/2018 18:59Analysis Batch Number: 422928End Date: 07/20/2018 02:13

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422928/1		07/19/2018 18:59	1	G2_5565.D	DB-624 (60.25) 0.25 (mm)
STD01 280-422928/12 IC		07/19/2018 19:45	1	G2_5567.D	DB-624 (60.25) 0.25 (mm)
STD02 280-422928/13 IC		07/19/2018 20:05	1	G2_5568.D	DB-624 (60.25) 0.25 (mm)
STD05 280-422928/14 IC		07/19/2018 20:26	1	G2_5569.D	DB-624 (60.25) 0.25 (mm)
STD10 280-422928/15 IC		07/19/2018 20:46	1	G2_5570.D	DB-624 (60.25) 0.25 (mm)
STD20 280-422928/16 IC		07/19/2018 21:07	1	G2_5571.D	DB-624 (60.25) 0.25 (mm)
STD50 280-422928/17 IC		07/19/2018 21:27	1	G2_5572.D	DB-624 (60.25) 0.25 (mm)
STD100 280-422928/18 IC		07/19/2018 21:48	1	G2_5573.D	DB-624 (60.25) 0.25 (mm)
STD200 280-422928/19 IC		07/19/2018 22:08	1	G2_5574.D	DB-624 (60.25) 0.25 (mm)
ICV 280-422928/20		07/19/2018 22:49	1	G2_5576.D	DB-624 (60.25) 0.25 (mm)
STD01 280-422928/21 IC		07/19/2018 23:30	1	G2_5578.D	DB-624 (60.25) 0.25 (mm)
STD02 280-422928/22 IC		07/19/2018 23:50	1	G2_5579.D	DB-624 (60.25) 0.25 (mm)
STD05 280-422928/23 IC		07/20/2018 00:11	1	G2_5580.D	DB-624 (60.25) 0.25 (mm)
STD10 280-422928/24 IC		07/20/2018 00:31	1	G2_5581.D	DB-624 (60.25) 0.25 (mm)
STD20 280-422928/25 IC		07/20/2018 00:51	1	G2_5582.D	DB-624 (60.25) 0.25 (mm)
ICIS 280-422928/26		07/20/2018 01:12	1	G2_5583.D	DB-624 (60.25) 0.25 (mm)
STD100 280-422928/27 IC		07/20/2018 01:32	1	G2_5584.D	DB-624 (60.25) 0.25 (mm)
STD200 280-422928/28 IC		07/20/2018 01:52	1	G2_5585.D	DB-624 (60.25) 0.25 (mm)
ICV 280-422928/29		07/20/2018 02:13	1	G2_5586.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2Start Date: 07/23/2018 17:38Analysis Batch Number: 423317End Date: 07/23/2018 23:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-423317/1		07/23/2018 17:38	1	G2_5686.D	DB-624 (60.25) 0.25 (mm)
STD01 280-423317/10 IC		07/23/2018 18:23	1	G2_5688.D	DB-624 (60.25) 0.25 (mm)
STD02 280-423317/11 IC		07/23/2018 18:43	1	G2_5689.D	DB-624 (60.25) 0.25 (mm)
STD05 280-423317/12 IC		07/23/2018 19:04	1	G2_5690.D	DB-624 (60.25) 0.25 (mm)
STD10 280-423317/13 IC		07/23/2018 19:24	1	G2_5691.D	DB-624 (60.25) 0.25 (mm)
STD20 280-423317/14 IC		07/23/2018 19:45	1	G2_5692.D	DB-624 (60.25) 0.25 (mm)
STD50 280-423317/15 IC		07/23/2018 20:05	1	G2_5693.D	DB-624 (60.25) 0.25 (mm)
STD100 280-423317/16 IC		07/23/2018 20:26	1	G2_5694.D	DB-624 (60.25) 0.25 (mm)
STD200 280-423317/17 IC		07/23/2018 20:46	1	G2_5695.D	DB-624 (60.25) 0.25 (mm)
ICV 280-423317/18		07/23/2018 21:07	1	G2_5696.D	DB-624 (60.25) 0.25 (mm)
CCV 280-423317/19		07/23/2018 21:48	1		DB-624 (60.25) 0.25 (mm)
CCV 280-423317/20		07/23/2018 22:08	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/23/2018 22:29	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/23/2018 22:50	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/23/2018 23:31	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_G2 Start Date: 07/23/2018 17:38Analysis Batch Number: 423345 End Date: 07/24/2018 05:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-423345/1		07/23/2018 17:38	1	G2_5686.D	DB-624 (60.25) 0.25 (mm)
CCV 280-423345/19		07/23/2018 21:48	1	G2_5698.D	DB-624 (60.25) 0.25 (mm)
CCV 280-423345/20		07/23/2018 22:08	1	G2_5699.D	DB-624 (60.25) 0.25 (mm)
LCS 280-423341/1-A		07/23/2018 22:29	1	G2_5700.D	DB-624 (60.25) 0.25 (mm)
LCSD 280-423341/2-A		07/23/2018 22:50	1	G2_5701.D	DB-624 (60.25) 0.25 (mm)
MB 280-423341/3-A		07/23/2018 23:31	1	G2_5703.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/23/2018 23:51	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 00:12	1		DB-624 (60.25) 0.25 (mm)
280-111956-3		07/24/2018 00:32	1	G2_5706.D	DB-624 (60.25) 0.25 (mm)
280-111956-4		07/24/2018 00:53	1	G2_5707.D	DB-624 (60.25) 0.25 (mm)
280-111956-5		07/24/2018 01:13	1	G2_5708.D	DB-624 (60.25) 0.25 (mm)
280-111956-6		07/24/2018 01:34	1	G2_5709.D	DB-624 (60.25) 0.25 (mm)
280-111956-7		07/24/2018 01:54	1	G2_5710.D	DB-624 (60.25) 0.25 (mm)
280-111956-6 MS		07/24/2018 04:58	1	G2_5719.D	DB-624 (60.25) 0.25 (mm)
280-111956-6 MSD		07/24/2018 05:18	1	G2_5720.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 07/08/2018 14:21Analysis Batch Number: 421403End Date: 07/08/2018 23:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD60 280-421403/16 IC		07/08/2018 14:21	1	MS9_2362.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 14:21	1		RTX-624 0.53 (mm)
STD30 280-421403/15 IC		07/08/2018 14:42	1	MS9_2363.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 14:42	1		RTX-624 0.53 (mm)
STD10 280-421403/14 IC		07/08/2018 15:03	1	MS9_2364.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 15:03	1		RTX-624 0.53 (mm)
STD5 280-421403/13 IC		07/08/2018 15:24	1	MS9_2365.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 15:24	1		RTX-624 0.53 (mm)
STD2 280-421403/12 IC		07/08/2018 15:45	1	MS9_2366.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 15:45	1		RTX-624 0.53 (mm)
STD1 280-421403/11 IC		07/08/2018 16:06	1	MS9_2367.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 16:06	1		RTX-624 0.53 (mm)
STD03 280-421403/10 IC		07/08/2018 16:27	1	MS9_2368.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 16:27	1		RTX-624 0.53 (mm)
ICV 280-421403/17		07/08/2018 16:48	1	MS9_2369.D	RTX-624 0.53 (mm)
STD60 280-421403/29 IC		07/08/2018 17:09	1	MS9_2370.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 17:09	1		RTX-624 0.53 (mm)
STD30 280-421403/28 IC		07/08/2018 17:30	1	MS9_2371.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 17:30	1		RTX-624 0.53 (mm)
ICIS 280-421403/27		07/08/2018 17:51	1	MS9_2372.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 17:51	1		RTX-624 0.53 (mm)
STD5 280-421403/26 IC		07/08/2018 18:11	1	MS9_2373.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 18:11	1		RTX-624 0.53 (mm)
STD2 280-421403/25 IC		07/08/2018 18:32	1	MS9_2374.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 18:32	1		RTX-624 0.53 (mm)
STD1 280-421403/24 IC		07/08/2018 18:53	1	MS9_2375.D	RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 18:53	1		RTX-624 0.53 (mm)
ICV 280-421403/30		07/08/2018 19:14	1	MS9_2376.D	RTX-624 0.53 (mm)
280-111109-A-2 MDLV		07/08/2018 19:56	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 19:56	1		RTX-624 0.53 (mm)
280-111109-A-3 MDLV		07/08/2018 20:17	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 20:17	1		RTX-624 0.53 (mm)
280-111109-A-4 MDLV		07/08/2018 20:38	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 20:38	1		RTX-624 0.53 (mm)
280-111109-A-5 MDLV		07/08/2018 20:58	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 20:58	1		RTX-624 0.53 (mm)
280-111109-A-5 MDLV		07/08/2018 21:19	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 21:19	1		RTX-624 0.53 (mm)
280-111109-A-1 MDLV		07/08/2018 21:40	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 21:40	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Start Date: 07/08/2018 14:21Analysis Batch Number: 421403 End Date: 07/08/2018 23:45

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
280-111109-A-7 MDLV		07/08/2018 22:01	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 22:01	1		RTX-624 0.53 (mm)
280-111109-A-8 MDLV		07/08/2018 22:22	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 22:22	1		RTX-624 0.53 (mm)
280-111109-A-9 MDLV		07/08/2018 22:42	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 22:42	1		RTX-624 0.53 (mm)
280-111109-A-10 MDLV		07/08/2018 23:03	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 23:03	1		RTX-624 0.53 (mm)
280-111109-A-11 MDLV		07/08/2018 23:24	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 23:24	1		RTX-624 0.53 (mm)
280-111109-A-11 MDLV		07/08/2018 23:45	1		RTX-624 0.53 (mm)
ZZZZZ		07/08/2018 23:45	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 07/16/2018 22:08Analysis Batch Number: 422406End Date: 07/17/2018 09:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422406/1		07/16/2018 22:08	1	MS9_2590.D	RTX-624 0.53 (mm)
CCV 280-422406/2		07/16/2018 22:29	1		RTX-624 0.53 (mm)
CCV 280-422406/3		07/16/2018 22:50	1		RTX-624 0.53 (mm)
STD2 280-422406/10 IC		07/16/2018 23:11	1	MS9_2593.D	RTX-624 0.53 (mm)
STD5 280-422406/11 IC		07/16/2018 23:32	1	MS9_2594.D	RTX-624 0.53 (mm)
STD10 280-422406/12 IC		07/16/2018 23:53	1	MS9_2595.D	RTX-624 0.53 (mm)
STD30 280-422406/13 IC		07/17/2018 00:14	1	MS9_2596.D	RTX-624 0.53 (mm)
STD60 280-422406/14 IC		07/17/2018 00:35	1	MS9_2597.D	RTX-624 0.53 (mm)
ICV 280-422406/15		07/17/2018 00:56	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 01:17	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 01:38	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 01:59	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 02:20	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 02:40	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 03:01	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 03:22	4		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 03:43	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 04:04	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 04:25	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 04:46	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 05:07	4		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 05:28	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 05:48	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 06:09	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 06:30	40		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 06:51	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 07:12	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 07:33	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 07:54	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 08:14	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 08:35	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 08:56	1		RTX-624 0.53 (mm)
ZZZZZ		07/17/2018 09:17	1		RTX-624 0.53 (mm)
CCVC 280-422406/38		07/17/2018 09:38	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Start Date: 07/21/2018 08:26Analysis Batch Number: 423129 End Date: 07/21/2018 15:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-423129/1		07/21/2018 08:26	1	MS9_2794.D	RTX-624 0.53 (mm)
CCV 280-423129/2		07/21/2018 09:07	1	MS9_2796.D	RTX-624 0.53 (mm)
CCV 280-423129/3		07/21/2018 09:28	1	MS9_2797.D	RTX-624 0.53 (mm)
LCS 280-423129/4		07/21/2018 09:49	1	MS9_2798.D	RTX-624 0.53 (mm)
MB 280-423129/6		07/21/2018 10:10	1	MS9_2799.D	RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 10:36	10		RTX-624 0.53 (mm)
280-111956-1		07/21/2018 10:57	1	MS9_2801.D	RTX-624 0.53 (mm)
280-111956-2		07/21/2018 11:18	2	MS9_2802.D	RTX-624 0.53 (mm)
280-111956-2 DL		07/21/2018 11:39	10	MS9_2803.D	RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 12:00	1		RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 12:21	1		RTX-624 0.53 (mm)
280-112000-B-2 MS		07/21/2018 12:42	1	MS9_2806.D	RTX-624 0.53 (mm)
280-112000-B-2 MSD		07/21/2018 13:03	1	MS9_2807.D	RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 13:24	1		RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 13:45	1		RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 14:06	1		RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 14:27	1		RTX-624 0.53 (mm)
ZZZZZ		07/21/2018 14:48	1		RTX-624 0.53 (mm)
CCVC 280-423129/24		07/21/2018 15:30	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 06/25/2018 08:50Analysis Batch Number: 419807End Date: 06/25/2018 22:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-419807/1		06/25/2018 08:50	1	Q4999.D	DB-624 (60.25) 0.25 (mm)
STD003 280-419807/11 IC		06/25/2018 09:40	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-4 MDLV		06/25/2018 09:40	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/12 IC		06/25/2018 10:01	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-4 MDLV		06/25/2018 10:01	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/13 IC		06/25/2018 10:22	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-3 MDLV		06/25/2018 10:22	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/14 IC		06/25/2018 10:42	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 10:42	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419807/15 IC		06/25/2018 11:03	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:03	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/16 IC		06/25/2018 11:24	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:24	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/17 IC		06/25/2018 11:46	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 11:46	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419807/18		06/25/2018 12:33	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/19 IC		06/25/2018 12:56	1	Q5010.D	DB-624 (60.25) 0.25 (mm)
280-111108-A-7 MDLV		06/25/2018 12:56	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/20 IC		06/25/2018 13:19	1	Q5011.D	DB-624 (60.25) 0.25 (mm)
280-111108-A-8 MDLV		06/25/2018 13:19	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-419807/22		06/25/2018 14:05	1	Q5013.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:05	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/23 IC		06/25/2018 14:28	1	Q5014.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:28	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/24 IC		06/25/2018 14:51	1	Q5015.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 14:51	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/21 IC		06/25/2018 15:14	1	Q5016.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		06/25/2018 15:14	1		DB-624 (60.25) 0.25 (mm)
ICV 280-419807/25		06/25/2018 15:59	1	Q5018.D	DB-624 (60.25) 0.25 (mm)
280-111108-A-1 MDLV		06/25/2018 16:22	1		DB-624 (60.25) 0.25 (mm)
STD003 280-419807/26 IC		06/25/2018 16:45	1		DB-624 (60.25) 0.25 (mm)
STD010 280-419807/27 IC		06/25/2018 17:08	1		DB-624 (60.25) 0.25 (mm)
STD020 280-419807/28 IC		06/25/2018 17:29	1		DB-624 (60.25) 0.25 (mm)
STD050 280-419807/29 IC		06/25/2018 17:50	1		DB-624 (60.25) 0.25 (mm)
STD10 280-419807/30 IC		06/25/2018 18:10	1		DB-624 (60.25) 0.25 (mm)
STD30 280-419807/31 IC		06/25/2018 18:31	1		DB-624 (60.25) 0.25 (mm)
STD60 280-419807/32 IC		06/25/2018 18:52	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_Q Start Date: 06/25/2018 08:50Analysis Batch Number: 419807 End Date: 06/25/2018 22:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ICV 280-419807/33		06/25/2018 19:15	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-2 MDLV		06/25/2018 19:38	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-3 MDLV		06/25/2018 20:01	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-4 MDLV		06/25/2018 20:47	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-5 MDLV		06/25/2018 21:10	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-7 MDLV		06/25/2018 21:32	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-8 MDLV		06/25/2018 21:55	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-9 MDLV		06/25/2018 22:18	1		DB-624 (60.25) 0.25 (mm)
280-111108-A-10 MDLV		06/25/2018 22:41	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 07/12/2018 13:44Analysis Batch Number: 422015End Date: 07/12/2018 17:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422015/1		07/12/2018 13:44	1	Q5623.D	DB-624 (60.25) 0.25 (mm)
STD003 280-422015/12 IC		07/12/2018 13:55	1	Q5624.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 13:55	1		DB-624 (60.25) 0.25 (mm)
STD010 280-422015/13 IC		07/12/2018 14:17	1	Q5625.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 14:17	1		DB-624 (60.25) 0.25 (mm)
STD020 280-422015/14 IC		07/12/2018 14:39	1	Q5626.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 14:39	1		DB-624 (60.25) 0.25 (mm)
STD050 280-422015/15 IC		07/12/2018 15:02	1	Q5627.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 15:02	1		DB-624 (60.25) 0.25 (mm)
STD10 280-422015/16 IC		07/12/2018 15:41	1	Q5628.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 15:41	1		DB-624 (60.25) 0.25 (mm)
STD30 280-422015/17 IC		07/12/2018 16:03	1	Q5629.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 16:03	1		DB-624 (60.25) 0.25 (mm)
STD60 280-422015/18 IC		07/12/2018 16:26	1	Q5630.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/12/2018 16:26	1		DB-624 (60.25) 0.25 (mm)
ICV 280-422015/19		07/12/2018 17:11	1	Q5632.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 07/16/2018 08:55Analysis Batch Number: 422281End Date: 07/16/2018 20:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-422281/1		07/16/2018 08:55	1	Q5635.D	DB-624 (60.25) 0.25 (mm)
ICV 280-422281/12		07/16/2018 09:45	1	Q5637.D	DB-624 (60.25) 0.25 (mm)
CCV 280-422281/2		07/16/2018 10:08	1		DB-624 (60.25) 0.25 (mm)
CCV 280-422281/3		07/16/2018 10:31	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 10:53	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 11:15	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 11:38	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 12:00	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 12:23	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 12:46	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 13:08	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 13:30	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 13:53	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 14:16	4		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 14:39	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 15:02	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 15:24	2		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 16:09	2		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 16:32	20		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 16:55	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 17:17	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 17:40	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 18:03	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 18:26	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 18:48	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 19:11	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 19:34	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 19:56	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/16/2018 20:18	20		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_QStart Date: 07/24/2018 05:35Analysis Batch Number: 423349End Date: 07/24/2018 15:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-423349/1		07/24/2018 05:35	1	Q5918.D	DB-624 (60.25) 0.25 (mm)
CCV 280-423349/3		07/24/2018 06:16	1	Q5920.D	DB-624 (60.25) 0.25 (mm)
CCV 280-423349/2		07/24/2018 06:39	1	Q5921.D	DB-624 (60.25) 0.25 (mm)
LCS 280-423349/4		07/24/2018 07:02	1	Q5922.D	DB-624 (60.25) 0.25 (mm)
MB 280-423349/6		07/24/2018 07:39	1	Q5923.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 08:05	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 08:28	1		DB-624 (60.25) 0.25 (mm)
280-111956-8		07/24/2018 08:50	1	Q5926.D	DB-624 (60.25) 0.25 (mm)
280-111956-9		07/24/2018 09:13	1	Q5927.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 09:36	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 09:58	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 10:20	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 10:43	1		DB-624 (60.25) 0.25 (mm)
280-112045-D-1 MS		07/24/2018 11:06	1	Q5932.D	DB-624 (60.25) 0.25 (mm)
280-112045-D-1 MSD		07/24/2018 11:28	1	Q5933.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 11:50	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 12:13	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 12:36	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 12:58	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 13:20	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 13:42	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 14:05	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 14:28	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 14:50	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 15:13	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		07/24/2018 15:35	1		DB-624 (60.25) 0.25 (mm)



Sequence Name: C:\msdchem\1\sequence\072118.S

Comment:

Operator: ILCZYSZYND

Data Path: C:\MSDCHEM\1\DATA\072118\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MS9

DV-MS-0010 (8260/8264) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 626-1530

Lims Batch: 473129

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Line	Sample Name/Misc Info
1) Sample	100 MS9_2794 BFB BFB
2) Sample	10 MS9_2795 8260 BLK
3) Sample	11 MS9_2796 8260 CCV M
4) Sample	12 MS9_2797 8260 CCV S
5) Sample	13 MS9_2798 8260 LCS
6) Sample	14 MS9_2799 8260 MB
7) Sample	15 MS9_2800 8260 280-111928-b-11 pH2 2ml
8) Sample	16 MS9_2801 8260 280-111956-a-1 pH2
9) Sample	17 MS9_2802 8260 280-111956-c-2 pH2 10ml
10) Sample	18 MS9_2803 8260 280-111956-c-2 pH2 1ml
11) Sample	19 MS9_2804 8260 280-112000-a-1 pH2
12) Sample	20 MS9_2805 8260 280-112000-c-2 pH2
13) Sample	21 MS9_2806 8260 280-112000-b-2 ms pH2
14) Sample	22 MS9_2807 8260 280-112000-b-2 msd pH2
15) Sample	23 MS9_2808 8260 280-112000-c-3 pH2
16) Sample	24 MS9_2809 8260 280-112000-c-4 pH2
17) Sample	25 MS9_2810 8260 280-112000-b-5 pH2
18) Sample	26 MS9_2811 8260 280-112000-b-6 pH2
19) Sample	27 MS9_2812 8260 280-112000-a-7 pH2
20) Sample	28 MS9_2813 8260 280-112000-a-7 pH2 5ml
21) Sample	29 MS9_2814 8260 CCVC
22) Sample	30 MS9_2815 8260 280-112000-b-8 pH2
23) Sample	31 MS9_2816 8260 280-112000-c-9 pH2
24) Sample	32 MS9_2817 8260 280-112000-c-10 pH2
25) Sample	33 MS9_2818 8260 280-112000-b-11 pH2
26) Sample	34 MS9_2819 8260 280-112000-c-12 pH2
27) Sample	35 MS9_2820 8260 280-112000-c-13 pH2
28) Sample	36 MS9_2821 8260 280-112000-a-14 pH2
29) Sample	37 MS9_2822 8260 280-112000-c-15 pH2
30) Sample	38 MS9_2823 8260 280-112000-c-16 pH2
31) Sample	39 MS9_2824 8260 280-112000-b-17 pH2
32) Sample	40 MS9_2825 8260 CCVC




















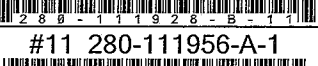
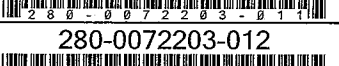
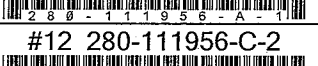

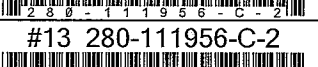
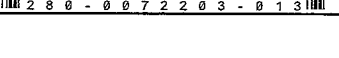
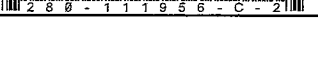
RR  
arcon error







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 072118  
 Instrument Name: VMS\_MS9  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180721-72203.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00099









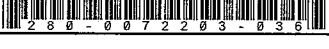

Worklist Number: 72203  
 Chrom Method: AQ\_VMSMS9\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.840, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072203-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0072203-002 	# 2 CCV 	MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	CCV	voaWater	20.00	mL	1.000
280-0072203-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0072203-004 	# 4 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCS	voaWater	20.00	mL	1.000
280-0072203-005 	# 5 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCSD	voaWater	20.00	mL	1.000
280-0072203-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0072203-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0072203-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0072203-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0072203-010 	#10 280-111928-B-11 		Client	voaWater	20.00	mL	10.00
280-0072203-011 	#11 280-111956-A-1 		Client	voaWater	20.00	mL	1.000
280-0072203-012 	#12 280-111956-C-2 		Client	voaWater	20.00	mL	2.000
280-0072203-013 	#13 280-111956-C-2 		Client	voaWater	20.00	mL	10.00



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072203-014 	#14 280-112000-A-1 		Client	voaWater	20.00	mL	1.000
280-0072203-015 	#15 280-112000-C-2 		Client	voaWater	20.00	mL	1.000
280-0072203-016 	#16 280-112000-B-2 MS 	MV-Gas/Ket B_00043 MV-Main B_00021 MV-SS 2-Cleve_00045	MS	voaWater	20.00	mL	1.000
280-0072203-017 	#17 280-112000-B-2 MSD 	MV-Gas/Ket B_00043 MV-Main B_00021 MV-SS 2-Cleve_00045	MSD	voaWater	20.00	mL	1.000
280-0072203-018 	#18 280-112000-C-3 		Client	voaWater	20.00	mL	1.000
280-0072203-019 	#19 280-112000-C-4 		Client	voaWater	20.00	mL	1.000
280-0072203-020 	#20 280-112000-B-5 		Client	voaWater	20.00	mL	1.000
280-0072203-021 	#21 280-112000-B-6 		Client	voaWater	20.00	mL	1.000
280-0072203-022 	#22 280-112000-A-7 		Client	voaWater	20.00	mL	1.000
280-0072203-023 	#23 280-112000-A-7 		Client	voaWater	20.00	mL	4.000
280-0072203-024 	#24 ccvc 	MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	CCVC	voaWater	20.00	mL	1.000
280-0072203-025 	#25 280-112000-B-8 		Client	voaWater	20.00	mL	1.000
280-0072203-026 	#26 280-112000-C-9 		Client	voaWater	20.00	mL	1.000
280-0072203-027 	#27 280-112000-C-10 		Client	voaWater	20.00	mL	1.000
280-0072203-028 	#28 280-112000-B-11 		Client	voaWater	20.00	mL	1.000
280-0072203-029 	#29 280-112000-C-12 		Client	voaWater	20.00	mL	1.000
280-0072203-030 	#30 280-112000-C-13 		Client	voaWater	20.00	mL	1.000
280-0072203-031 	#31 280-112000-A-14 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072203-032 	#32 280-112000-C-15 		Client	voaWater	20.00	mL	1.000
280-0072203-033 	#33 280-112000-C-16 		Client	voaWater	20.00	mL	1.000
280-0072203-034 	#34 280-112000-B-17 		Client	voaWater	20.00	mL	1.000
280-0072203-035 	#35 ccvc 	MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	CCVC	voaWater	20.00	mL	1.000
280-0072203-036 	#36 Samp 36 		Client	voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\072318LL.s

Comment:

Operator: newcomer

Data Path: C:\msdchem\1\DATA\07218LL\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

Sequence Barcode Options

(X) On Mismatch, Inject Anyway

( ) On Mismatch, Don't Inject

( ) Barcode Disabled

Test America Denver

Instrument: G2

DV-MS-0010 (8260S/624) (Circle)

Purge Volume: (20mL/5mL (5g))

(Circle)

Tune Time: 1738-05/8

Lims Batch: 423317

423345, 423346

RSN

7/24/18

Line	Sample Name/Misc Info
1) Sample 100	G2_5686 BFBS BFB
2) Sample 1	G2_5687 8260S Blank
3) Sample 2	G2_5688 8260S STD01
4) Sample 3	G2_5689 8260S STD02
5) Sample 4	G2_5690 8260S STD05
6) Sample 5	G2_5691 8260S STD10
7) Sample 6	G2_5692 8260S STD20
8) Sample 7	G2_5693 8260S STD50
9) Sample 8	G2_5694 8260S STD100
10) Sample 9	G2_5695 8260S STD200
11) Sample 10	G2_5696 8260S ICV
12) Sample 11	G2_5697 8260S Blank
13) Sample 12	G2_5698 8260S CCV
14) Sample 13	G2_5699 8260S CCV
15) Sample 14	G2_5700 8260S LCS
16) Sample 15	G2_5701 8260S LCSD
17) Sample 16	G2_5702 8260S Blank
18) Sample 17	G2_5703 8260S MB
19) Sample 18	G2_5704 8260S 280-111966-F-5-A
20) Sample 19	G2_5705 8260S 280-111966-F-9-A
21) Sample 20	G2_5706 8260S 280-111956-C-3-A
22) Sample 21	G2_5707 8260S 280-111956-C-4-A
23) Sample 22	G2_5708 8260S 280-111956-C-5-A
24) Sample 23	G2_5709 8260S 280-111956-E-6-A
25) Sample 24	G2_5710 8260S 280-111956-C-7-A IS ↑
26) Sample 25	G2_5711 8260S 280-111879-F-1-B
27) Sample 26	G2_5712 8260S 280-111966-C-1-A
28) Sample 27	G2_5713 8260S 280-111966-C-2-A
29) Sample 28	G2_5714 8260S 280-111966-C-3-A
30) Sample 29	G2_5715 8260S 280-111966-D-4-A
31) Sample 30	G2_5716 8260S 280-111966-C-6-A
32) Sample 31	G2_5717 8260S 280-111966-C-7-A
33) Sample 32	G2_5718 8260S 280-111966-C-8-A
34) Sample 33	G2_5719 8260S 280-111956-F-6-A MS
35) Sample 34	G2_5720 8260S 280-111956-F-6-A MSD
36) Sample 35	G2_5721 8260S blank
37) Sample 36	G2_5722 8260S blank
38) Sample 37	G2_5723 8260S blank



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 072318LL

Worklist Number: 72254

Instrument Name: VMS\_G2

Chrom Method: SO\_VMSG2\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_G2\20180723-72254.b

QC Batching: Enabled

Limit Group Batching: Enabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 423317	MSV - 624 Raw Batch: 423335
# 1 BFB	# 1 BFB	
# 2 CCV	# 2 CCV	
# 3 CCV	# 3 CCV	
# 4 LCS	# 4 LCS	
# 5 LCSD	# 5 LCSD	
# 6 MB	# 6 MB	
# 7 280-108595-A-4	# 7 280-108595-A-4	
# 8 280-108595-A-5-A	# 8 280-108595-A-5-A	
# 9 280-108595-A-6	# 9 280-108595-A-6	
#10 STD01	#10 STD01	#10 STD01
#11 STD02	#11 STD02	#11 STD02
#12 STD05	#12 STD05	#12 STD05
#13 STD10	#13 STD10	#13 STD10
#14 STD20	#14 STD20	#14 STD20
#15 STD50	#15 STD50	#15 STD50
#16 STD100	#16 STD100	#16 STD100
#17 STD200	#17 STD200	#17 STD200
#18 ICV	#18 ICV	
#19 CCV	#19 CCV	
#20 CCV	#20 CCV	
#21 LCS	#21 LCS	
#22 LCSD	#22 LCSD	
#23 MB	#23 MB	

QC Batch: 2	MSV - 8260B Water and Solid Raw Batch: 423345
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
#19 CCV	#19 CCV
#20 CCV	#20 CCV
#21 LCS	#21 LCS
#22 LCSD	#22 LCSD
#23 MB	#23 MB
#24 280-111966-F-5-A	#24 280-111966-F-5-A
#25 280-111966-F-9-A	#25 280-111966-F-9-A
#26 280-111956-C-3-A	#26 280-111956-C-3-A
#27 280-111956-C-4-A	#27 280-111956-C-4-A
#28 280-111956-C-5-A	#28 280-111956-C-5-A
#29 280-111956-E-6-A	#29 280-111956-E-6-A
#30 280-111956-F-6-A MS	#30 280-111956-F-6-A MS
#31 280-111956-G-6-A MSD	#31 280-111956-G-6-A MSD
#32 280-111956-C-7-A	#32 280-111956-C-7-A

QC Batch: 3	MSV - 8260B Water and Solid Raw Batch: 423346
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV











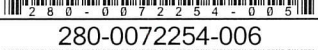
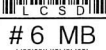
















QC Batch: 3	MSV - 8260B Water and Solid Raw Batch: 423346
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
#19 CCV	#19 CCV
#20 CCV	#20 CCV
#21 LCS	#21 LCS
#22 LCSD	#22 LCSD
#23 MB	#23 MB
#33 280-111879-F-1-B	#33 280-111879-F-1-B
#34 280-111966-C-1-A	#34 280-111966-C-1-A
#35 280-111966-C-2-A	#35 280-111966-C-2-A
#36 280-111966-C-3-A	#36 280-111966-C-3-A
#37 280-111966-D-4-A	#37 280-111966-D-4-A
#38 280-111966-C-6-A	#38 280-111966-C-6-A
#39 280-111966-C-7-A	#39 280-111966-C-7-A
#40 280-111966-C-8-A	#40 280-111966-C-8-A
#41 Samp 41	#41 Samp 41







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 072318LL  
 Instrument Name: VMS\_G2  
 Injection Volume: 1.000  
 Analysis Type: Semi VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_G2\20180723-72254.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_G2  
 Run Reagent: MV-568718-D\_00003  
 Run Reagent: MV-ARCH SS A\_00100





















Worklist Number: 72254  
 Chrom Method: SO\_VMSG2\_8260  
 Units: uL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.880, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072254-001 	# 1 BFB 	MV-BFB_00026	BFB		voaSoiLL	1.000	uL	1.000
280-0072254-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00075	CCV		voaSoiLL	5.000	g	1.000
280-0072254-003 	# 3 CCV 	MV-568718-D_00003 MV-Supp A_00031	CCV		voaSoiLL	5.000	g	1.000
280-0072254-004 	# 4 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00044	LCS		voaSoiLL	5.000	g	1.000
280-0072254-005 	# 5 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00044	LCSD		voaSoiLL	5.000	g	1.000
280-0072254-006 	# 6 MB 		MB		voaSoiLL	5.000	g	1.000
280-0072254-007 	# 7 280-108595-A-4 		Client		voaSoiLL	5.000	g	1.000
280-0072254-008 	# 8 280-108595-A-5-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-009 	# 9 280-108595-A-6 		Client		voaSoiLL	5.000	g	1.000
280-0072254-010 	#10 STD01 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	1	voaSoiLL	5.000	g	1.000
280-0072254-011 	#11 STD02 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	2	voaSoiLL	5.000	g	1.000
280-0072254-012 	#12 STD05 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	3	voaSoiLL	5.000	g	1.000
280-0072254-013 	#13 STD10 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	4	voaSoiLL	5.000	g	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072254-014 	#14 STD20 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	5	voaSoiLL	5.000	g	1.000
280-0072254-015 	#15 STD50 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	6	voaSoiLL	5.000	g	1.000
280-0072254-016 	#16 STD100 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	7	voaSoiLL	5.000	g	1.000
280-0072254-017 	#17 STD200 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	8	voaSoiLL	5.000	g	1.000
280-0072254-018 	#18 ICV 	MV-568718-D_00003 MV-Gas/Ket B_00044	ICV		voaSoiLL	5.000	g	1.000
280-0072254-019 	#19 CCV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2Cleve+AVA_00036	CCV		voaSoiLL	5.000	g	1.000
280-0072254-020 	#20 CCV 	MV-568718-D_00003 MV-Supp A_00031	CCV		voaSoiLL	5.000	g	1.000
280-0072254-021 	#21 LCS 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	LCS		voaSoiLL	5.000	g	1.000
280-0072254-022 	#22 LCSD 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	LCSD		voaSoiLL	5.000	g	1.000
280-0072254-023 	#23 MB 		MB		voaSoiLL	5.000	g	1.000
280-0072254-024 	#24 280-111966-F-5-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-025 	#25 280-111966-F-9-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-026 	#26 280-111956-C-3-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-027 	#27 280-111956-C-4-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-028 	#28 280-111956-C-5-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-029 	#29 280-111956-E-6-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-030 	#30 280-111956-F-6-A MS 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	MS		voaSoiLL	5.000	g	1.000
280-0072254-031 	#31 280-111956-G-6-A MSD 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	MSD		voaSoiLL	5.000	g	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072254-032 	#32 280-111956-C-7-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-033 	#33 280-111879-F-1-B 		Client		voaSoiLL	5.000	g	1.000
280-0072254-034 	#34 280-111966-C-1-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-035 	#35 280-111966-C-2-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-036 	#36 280-111966-C-3-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-037 	#37 280-111966-D-4-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-038 	#38 280-111966-C-6-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-039 	#39 280-111966-C-7-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-040 	#40 280-111966-C-8-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-041 	#41 Samp 41 		Client		voaSoiLL	5.000	g	1.000



# Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 280-423341
















Analyst: Newcome, Robin S

Batch Open: 7/23/2018 10:00:00PM

Method Code: 280-5035FP\_Calc-280

Batch End:

## Closed System Purge and Trap

	Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Dlv Rank	Comments	Output Sample Lab ID
1	LCS-280-423341/1 N/A	N/A	5 g		N/A	N/A	N/A		
2	LCSD-280-423341/2 N/A	N/A	5 g		N/A	N/A	N/A		
3	MB-280-423341/3 N/A	N/A	5 g		N/A	N/A	N/A		
4	280-111879-G-1 (8260B)	N/A (280-111879-1)	13.626 g		7/23/18	7_Day_Rush	2	Client sticker over tare weight	
5	280-111966-F-1 (8260B)	N/A (280-111966-1)	9.507 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
6	280-111966-F-2 (8260B)	N/A (280-111966-1)	9.908 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
7	280-111966-F-3 (8260B)	N/A (280-111966-1)	11.632 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
8	280-111966-F-4 (8260B)	N/A (280-111966-1)	9.303 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
9	280-111966-F-5 (8260B)	N/A (280-111966-1)	5.968 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
10	280-111966-F-6 (8260B)	N/A (280-111966-1)	9.485 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
11	280-111966-F-7 (8260B)	N/A (280-111966-1)	12.753 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
12	280-111966-F-8 (8260B)	N/A (280-111966-1)	12.288 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
13	280-111966-F-9 (8260B)	N/A (280-111966-1)	7.332 g		7/25/18	8_Day_Rush	2	Client sticker over tare weight	
14	280-111956-C-3 (8260B)	N/A (280-111956-1)	5.299 g		7/31/18	12_Days	3		
15	280-111956-C-4 (8260B)	N/A (280-111956-1)	5.831 g		7/31/18	12_Days	3		



# Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)






Batch Number: 280-423341

Analyst: Newcome, Robin S

Batch Open: 7/23/2018 10:00:00PM

Method Code: 280-5035FP\_Calc-280

Batch End:

16	280-111956-C-5 (8260B)	N/A (280-111956-1)	6.705 g		7/31/18	12_Days	3	
17	280-111956-E-6 (8260B)	N/A (280-111956-1)	5.997 g		7/31/18	12_Days	3	
18	280-111956-F-6~MS (8260B)	N/A (280-111956-1)	6.07 g		7/31/18	12_Days	3	
19	280-111956-G-6~MSD (8260B)	N/A (280-111956-1)	6.447 g		7/31/18	12_Days	3	
20	280-111956-C-7 (8260B)	N/A (280-111956-1)	7.032 g		7/31/18	12_Days	3	

## Batch Notes

Balance ID 24850252

Blank Matrix ID 175085

Preservative ID NA

Pipette/Syringe/Dispenser ID NA

Vial Lot Number NA

Batch Comment NA



Batch

423341

RSN 7/23/18



280-111879-G-1

EXCAVATION SOIL 1

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/11/2018 5:45 PM 280-5212514 COC



280-111966-F-6

SS-6

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 6:15 PM 280-5215433 COC



280-111956-C-4

AFDV-210

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:35 AM 280-5215282



280-111966-F-1

SS-1

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 3:30 PM 280-5215398 COC



280-111966-F-7

SS-7

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 6:40 PM 280-5215440 COC



280-111956-C-5

AFDV-211

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:40 AM 280-5215286



280-111966-F-2

SS-2

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 4:20 PM 280-5215405 COC



280-111966-F-8

SS-8

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 6:55 PM 280-5215447 COC



280-111956-E-6

AFDV-212

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:05 AM 280-5215292



280-111966-F-3

SS-3

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 5:10 PM 280-5215412 COC



280-111966-F-9

SS-9

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:10 PM 280-5215454 COC



280-111956-F-6

AFDV-212

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:05 AM 280-5215293

MS



280-111966-F-4

SS-4

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 5:30 PM 280-5215419 COC



280-111956-C-3

AFDV-209

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:30 AM 280-5215278



280-111956-G-6

AFDV-212

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:05 AM 280-5215294

MSD



280-111966-F-5

SS-5

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 5:55 PM 280-5215426 COC



280-111956-C-7

AFDV-213

Location: MS-Strge

Bottle: Tared 40mL + DI-H2O

Sampled: 7/12/2018 7:10 AM 280-5215303



# Solid SW-846-3500 Analysis Sheet

(To Accompany Samples to Instruments)

Batch Number: 280-423343














Analyst: Newcome, Robin S

Batch Open: 7/23/2018 10:00:00PM

Method Code: 280-5030A\_SolidNAC-280

Batch End:

## Purge and Trap

Input Sample Lab ID (Analytical Method)	SDG (Job #)	Initial Amount	Final Amount	Due Date	Analytical TAT	Div Rank	Comments	Output Sample Lab ID
LCS~280-423343/1 N/A	N/A	5 g	5 mL	N/A	N/A	N/A		
LCSD~280-423343/2 N/A	N/A	5 g	5 mL	N/A	N/A	N/A		
MB~280-423343/3 N/A	N/A	5 g	5 mL	N/A	N/A	N/A		
280-111879-F-1 N/A	N/A	4.836 g	5 mL	N/A	N/A	N/A		
280-111966-C-1 N/A	N/A	4.552 g	5 mL	N/A	N/A	N/A		
280-111966-C-2 N/A	N/A	4.895 g	5 mL	N/A	N/A	N/A		
280-111966-C-3 N/A	N/A	4.968 g	5 mL	N/A	N/A	N/A		
280-111966-D-4 N/A	N/A	4.452 g	5 mL	N/A	N/A	N/A		
280-111966-C-6 N/A	N/A	5.023 g	5 mL	N/A	N/A	N/A		
280-111966-C-7 N/A	N/A	5.387 g	5 mL	N/A	N/A	N/A		
280-111966-C-8 N/A	N/A	4.522 g	5 mL	N/A	N/A	N/A		
N/A	N/A			N/A	N/A	N/A		
N/A	N/A			N/A	N/A	N/A		



Sequence Name: C:\HPCHEM\1\SEQUENCE\072418.S

Comment:

Operator: DOBRANSKYM

Data Path: C:\HPCHEM\1\DATA\072418.s\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument:

DV-MS-0010 (8260B/624) (Circle)

Purge Volume: (20mL/5mL/5g)

Tune Time: 535 - 1535 (Circle)

Line Batch: 423349

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Line Type Vial DataFile Method Sample Name

1 Sample	100 Q5918	BFB	BFB
2 Sample	10 Q5919X	8260	CCV
3 Sample	11 Q5920	8260	CCV
4 Sample	12 Q5921	8260	CCV Gv8 ✓
5 Sample	13 Q5922	8260	LCS
6 Sample	14 Q5923	8260	MB
7 Sample	15 Q5924	8260	280-112045-B-1 PH<2
8 Sample	16 Q5925	8260	280-111862-B-10 PH<2
9 Sample	17 Q5926	8260	280-111956-A-8 PH<2
10 Sample	18 Q5927	8260	280-111956-A-9 PH<2
11 Sample	19 Q5928	8260	280-112045-B-2 PH<2
12 Sample	20 Q5929	8260	280-112045-B-3 PH<2
13 Sample	21 Q5930	8260	280-112042-B-6 PH<2
14 Sample	22 Q5931	8260	280-112042-B-5 PH<2
15 Sample	23 Q5932	8260	280-112045-D-1 MS PH<2
16 Sample	24 Q5933	8260	280-112045-D-1 MSD PH<2
17 Sample	25 Q5934	8260	280-112056-A-11 PH<2
18 Sample	26 Q5935	8260	280-112056-C-1 PH<2
19 Sample	27 Q5936	8260	280-112056-C-2 PH<2
20 Sample	28 Q5937	8260	280-112056-C-3 PH<2
21 Sample	29 Q5938	8260	280-112056-C-4 PH<2
22 Sample	30 Q5939	8260	280-112056-B-5 PH<2
23 Sample	31 Q5940	8260	280-112056-C-6 PH<2
24 Sample	32 Q5941	8260	280-112056-C-7 PH<2
25 Sample	33 Q5942	8260	280-112056-C-8 PH<2
26 Sample	34 Q5943	8260	280-112056-C-9 PH<2
27 Sample	35 Q5944	8260	280-112056-C-10 PH<2

WL: 72262  
7/24/18



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 072418

Worklist Number: 72262

Instrument Name: VMS\_Q

Chrom Method: AQ\_VMSQ\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180724-72262.b

QC Batching: Disabled

























Limit Group Batching: Enabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 423349
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
#10 280-112045-B-1	#10 280-112045-B-1
#11 280-111862-B-10	#11 280-111862-B-10
#12 280-111956-A-8	#12 280-111956-A-8
#13 280-111956-A-9	#13 280-111956-A-9
#14 280-112045-B-2	#14 280-112045-B-2
#15 280-112045-B-3	#15 280-112045-B-3
#16 280-112042-B-6	#16 280-112042-B-6
#17 280-112042-B-5	#17 280-112042-B-5
#18 280-112045-D-1 MS	#18 280-112045-D-1 MS
#19 280-112045-D-1 MSD	#19 280-112045-D-1 MSD
#20 280-112056-A-11	#20 280-112056-A-11
#21 280-112056-C-1	#21 280-112056-C-1
#22 280-112056-C-2	#22 280-112056-C-2
#23 280-112056-C-3	#23 280-112056-C-3
#24 280-112056-C-4	#24 280-112056-C-4
#25 280-112056-B-5	#25 280-112056-B-5
#26 280-112056-C-6	#26 280-112056-C-6
#27 280-112056-C-7	#27 280-112056-C-7
#28 280-112056-C-8	#28 280-112056-C-8
#29 280-112056-C-9	#29 280-112056-C-9
#30 280-112056-C-10	#30 280-112056-C-10
#31 Samp 31	#31 Samp 31







































TestAmerica Laboratories  
Worklist Report

Worklist Name: 072418  
 Instrument Name: VMS\_Q  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180724-72262.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00098 Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072262-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0072262-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-568718-D_00008 MV-Gas/Ket A_00075	CCV	voaWater	20.00	mL	1.000
280-0072262-003 	# 3 CCV 	MV-Supp A_00031	CCV	voaWater	20.00	mL	1.000
280-0072262-004 	# 4 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCS	voaWater	20.00	mL	1.000
280-0072262-005 	# 5 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCSD	voaWater	20.00	mL	1.000
280-0072262-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0072262-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0072262-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0072262-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0072262-010 	#10 280-112045-B-1 		Client	voaWater	20.00	mL	1.000
280-0072262-011 	#11 280-111862-B-10 		Client	voaWater	20.00	mL	1.000
280-0072262-012 	#12 280-111956-A-8 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072262-013 	#13 280-111956-A-9 		Client	voaWater	20.00	mL	1.000
280-0072262-014 	#14 280-112045-B-2 		Client	voaWater	20.00	mL	1.000
280-0072262-015 	#15 280-112045-B-3 		Client	voaWater	20.00	mL	1.000
280-0072262-016 	#16 280-112042-B-6 		Client	voaWater	20.00	mL	1.000
280-0072262-017 	#17 280-112042-B-5 		Client	voaWater	20.00	mL	1.000
280-0072262-018 	#18 280-112045-D-1 MS 	MV-Main B_00020 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043	MS	voaWater	20.00	mL	1.000
280-0072262-019 	#19 280-112045-D-1 MSD 	MV-Main B_00020 MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043	MSD	voaWater	20.00	mL	1.000
280-0072262-020 	#20 280-112056-A-11 		Client	voaWater	20.00	mL	1.000
280-0072262-021 	#21 280-112056-C-1 		Client	voaWater	20.00	mL	1.000
280-0072262-022 	#22 280-112056-C-2 		Client	voaWater	20.00	mL	1.000
280-0072262-023 	#23 280-112056-C-3 		Client	voaWater	20.00	mL	1.000
280-0072262-024 	#24 280-112056-C-4 		Client	voaWater	20.00	mL	1.000
280-0072262-025 	#25 280-112056-B-5 		Client	voaWater	20.00	mL	1.000
280-0072262-026 	#26 280-112056-C-6 		Client	voaWater	20.00	mL	1.000
280-0072262-027 	#27 280-112056-C-7 		Client	voaWater	20.00	mL	1.000
280-0072262-028 	#28 280-112056-C-8 		Client	voaWater	20.00	mL	1.000
280-0072262-029 	#29 280-112056-C-9 		Client	voaWater	20.00	mL	1.000
280-0072262-030 	#30 280-112056-C-10 		Client	voaWater	20.00	mL	1.000



7/24/2018  
7:33AM

Sample Request Form: 49088



7/24/18 *rd*

Page 1 of 2

den\_msvoa\_totalbacklog 7/24/2018 7:33:49 AM Assigned to:Dobransky, Michael E

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-111862-10	AFDV-225	20 L2	8260B	8260B	07/25 23:59	07/30/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-111956-8	AFDV-223	20 L2	8260B	8260B	07/26 23:59	07/31/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-111956-9	AFDV-224	20 L2	8260B	8260B	07/26 23:59	07/31/18	JNI	IA	MS-Strge	Unconfirmed
M DIL2/Use DF										
280-112042-5	DUP	20 L2	8260B	8260B	07/29 23:59	08/02/18	DMH	TX	MS-Strge	Unconfirmed
280-112042-6	TRIP BLANK	20 L2	8260B	8260B	07/29 23:59	08/02/18	DMH	TX	MS-Strge	Unconfirmed
280-112045-1	B3J663	20 L2	8260B	8260B	07/30 23:59	07/29/18	DFB	WA	MS-Strge	Level 1 radioactive
280-112045-1MS	B3J663	20 L2	8260B	8260B	07/30 23:59	08/11/18	DFB	WA		Level 1 radioactive
280-112045-1MSD	B3J663	20 L2	8260B	8260B	07/30 23:59	08/11/18	DFB	WA		Level 1 radioactive
280-112045-2	B3J676	20 L2	8260B	8260B	07/30 23:59	07/29/18	DFB	WA	MS-Strge	Level 1 radioactive
280-112045-3	B3J661	20 L2	8260B	8260B	07/30 23:59	07/29/18	DFB	WA	MS-Strge	Level 1 radioactive
280-112056-1	ESA01	20 L2	8260B	8260B	07/30 23:59	08/02/18	DMH	TX	Mtis-Strge & MS-Strge	Unconfirmed
M TRRP/Use DF										
280-112056-2	ESA03	20 L2	8260B	8260B	07/30 23:59	08/02/18	DMH	TX	MS-Strge & Mtis-Strge	Unconfirmed
M TRRP/Use DF										
280-112056-3	ESA05	20 L2	8260B	8260B	07/30 23:59	08/02/18	DMH	TX	MS-Strge & Mtis-Strge	Unconfirmed

Page 213 of 27



den\_msvoa\_totalbacklog 7/24/2018 7:33:49 AM Assigned to:Dobransky, Michael E

[illegible]



Sequence Name: C:\HPCHEM\1\SEQUENCE\070518I.S

Comment:

Operator: MEIERG

Data Path: C:\HPCHEM\1\DATA\070518I.s\

Pre-Seq Cmd:

Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: \_\_\_\_\_  
DV-MS-0010 (8260B/624) (Circle)

Purge Volume: (20mL/5mL/5g)  
(Circle)

Tune Time: \_\_\_\_\_

1ims Batch: \_\_\_\_\_

Line Type	Vial	DataFile	Method	Sample Name
1 Sample	100	Q5444	BFB	BFB
2 Sample	1	Q5445	8260	IC
3 Sample	2	Q5446	8260	IC
4 Sample	3	Q5447	8260	IC
5 Sample	4	Q5448	8260	IC
6 Sample	5	Q5449	8260	ICIS
7 Sample	6	Q5450	8260	IC
8 Sample	7	Q5451	8260	IC
9 Sample	8	Q5452	8260	CCV
10 Sample	9	Q5453	8260	ICV
11 Sample	10	Q5454	8260	LCS
12 Sample	11	Q5455	8260	LCSD
13 Sample	12	Q5456	8260	MB
14 Sample	13	Q5457	8260	280-111344-n-1 PH<2
15 Sample	14	Q5458	8260	280-111344-o-7 PH<2
16 Sample	15	Q5459	8260	280-111344-m-12 PH<2
17 Sample	16	Q5460	8260	280-111344-k-14 PH<2
18 Sample	17	Q5461	8260	280-111344-j-15 PH<2
19 Sample	18	Q5462	8260	CCVC
20 Sample	19	Q5463	8260	280-111289-a-8 PH<2
21 Sample	20	Q5464	8260	280-111289-a-9 PH<2
22 Sample	21	Q5465	8260	280-111289-a-10 PH<2
23 Sample	22	Q5466	8260	280-111289-b-11 PH<2
24 Sample	23	Q5467	8260	280-111289-c-2 PH<2
25 Sample	24	Q5468	8260	280-111289-b-3 4ML PH<2
26 Sample	25	Q5469	8260	280-111289-a-5 .05ML PH<2
27 Sample	26	Q5470	8260	280-111289-c-6 1ML PH<2
28 Sample	27	Q5471	8260	280-111289-c-6 MS 1ML PH<2
29 Sample	28	Q5472	8260	280-111289-c-6 MSD 1ML PH<2
30 Sample	29	Q5473	8260	280-110935-i-1 PH<2
31 Sample	30	Q5474	8260	280-111216-r-1 1ML PH<2
32 Sample	31	Q5475	8260	BLANK
33 Sample	32	Q5476	8260	280-111490-d-2 SCREENS
34 Sample	33	Q5477	8260	280-111490-d-3
35 Sample	34	Q5478	8260	280-111490-e-4
36 Sample	35	Q5479	8260	280-111490-c-5























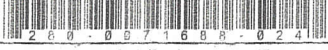







TestAmerica Laboratories  
Worklist Report

Worklist Name: 0705181  
 Instrument Name: VMS\_Q  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180705-71688.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00098 Amount Added: 0.840, Units: uL

280-0071688-001	# 1 BFB	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071688-002	# 2 CCV	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00070	CCV		voaWater	20.00	mL	1.000
280-0071688-003	# 3 CCV	MV-Supp A_00031 MV-568718-D_00008	CCV		voaWater	20.00	mL	1.000
280-0071688-004	# 4 CCV	mv-Pentachlor_00010 MV-568718-D_00008	CCV		voaWater	20.00	mL	1.000
280-0071688-005	# 5 LCS	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00040	LCS		voaWater	20.00	mL	1.000
280-0071688-006	# 6 LCSD	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00040	LCSD		voaWater	20.00	mL	1.000
280-0071688-007	# 7 LCS	MV-Supp B_00020	LCS		voaWater	20.00	mL	1.000
280-0071688-008	# 8 MB		MB		voaWater	20.00	mL	1.000
280-0071688-009	# 9 280-108595-A-1		Client		voaWater	20.00	mL	1.000
280-0071688-010	#10 280-108595-A-2		Client		voaWater	20.00	mL	1.000
280-0071688-011	#11 280-108595-A-3		Client		voaWater	20.00	mL	1.000
280-0071688-012	#12 STD003	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	1	voaWater	20.00	mL	1.000



Vo	IR	Li	ID	Sa	Je F	JeI	Imp	Ca	Fr	al	Vol	Unit	Vol
280-0071688-013		#13 STD010		MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098			IC	2	voaWater	20.00	mL	1.000	
280-0071688-014		#14 STD020		MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098			IC	3	voaWater	20.00	mL	1.000	
280-0071688-015		#15 STD050		MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098			IC	4	voaWater	20.00	mL	1.000	
280-0071688-016		#16 STD10		MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098			IC	5	voaWater	20.00	mL	1.000	
280-0071688-017		#17 STD30		MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098			IC	6	voaWater	20.00	mL	1.000	
280-0071688-018		#18 STD60		MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098			IC	7	voaWater	20.00	mL	1.000	
280-0071688-019		#19 ICV		MV-SS 2-Cleve_00043 MV-Gas/Ket B_00040 MV-Main B_00020			ICV		voaWater	20.00	mL	1.000	
280-0071688-020		#20 280-111344-N-1					Client		voaWater	20.00	mL	1.000	
280-0071688-021		#21 280-111344-O-7					Client		voaWater	20.00	mL	1.000	
280-0071688-022		#22 280-111344-M-12					Client		voaWater	20.00	mL	1.000	
280-0071688-023		#23 280-111344-K-14					Client		voaWater	20.00	mL	1.000	
280-0071688-024		#24 280-111344-J-15					Client		voaWater	20.00	mL	1.000	
280-0071688-025		#25 ccvc		MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036			CCVC		voaWater	20.00	mL	1.000	
280-0071688-026		#26 280-111289-A-8					Client		voaWater	20.00	mL	1.000	



No.	ID	Sample	Smp. Type	Conc. Lv	Fr.	Total vol/Wt	Vol/Unit	Unit
280-0071688-027	#27 280-111289-A-9		Client		voaWater	20.00	mL	1.000
280-0071688-028	#28 280-111289-A-10		Client		voaWater	20.00	mL	1.000
280-0071688-029	#29 280-111289-B-11		Client		voaWater	20.00	mL	1.000
280-0071688-030	#30 280-111289-C-2		Client		voaWater	20.00	mL	1.000
280-0071688-031	#31 280-111289-B-3		Client		voaWater	20.00	mL	5.000
280-0071688-032	#32 280-111289-A-5		Client		voaWater	20.00	mL	400.0
280-0071688-033	#33 280-111289-C-6		Client		voaWater	20.00	mL	20.00
280-0071688-034	#34 280-111289-C-6 MS	MV-Gas/Ket B_00040 MV-Supp B_00020 MV-SS 2-Cleve_00043	MS		voaWater	20.00	mL	20.00
280-0071688-035	#35 280-111289-C-6 MSD	MV-Supp B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00040	MSD		voaWater	20.00	mL	20.00
280-0071688-036	#36 280-110935-I-1		Client		voaWater	20.00	mL	1.000
280-0071688-037	#37 280-111216-R-1		Client		voaWater	20.00	mL	20.00
280-0071688-038	#38 280-111490-D-2		Client		voaWater	20.00	mL	1.000
280-0071688-039	#39 280-111490-D-3		Client		voaWater	20.00	mL	1.000
280-0071688-040	#40 280-111490-E-4		Client		voaWater	20.00	mL	1.000
280-0071688-041	#41 280-111490-C-5		Client		voaWater	20.00	mL	1.000
280-0071688-042	#42 Samp 42		Client		voaWater	20.00	mL	1.000



## GCMS Volatile ICAL Data Review Checklist

LIMS Batch Number: <b>421403</b>	Worklist #: <b>71767</b>	ICAL Event #: <b>—</b>	ICIS/ICV Line #s: <b>17 / 27 / 30</b>	2 <sup>nd</sup> Day ICV Line#	Instrument ID: <b>MS9 7/8</b>
2 <sup>nd</sup> Day Batch/ICV Lines:			<i>Main / ICIS / Supp</i>		
Analyst/1 <sup>st</sup> Reviewer: <i>[Signature]</i>	Prep Method (circle): <b>5030</b> 5035-L 5035-H		Analytical Method (circle): 624 <b>8260B</b> SIM Other _____		
Date: <b>7/9/18</b>					
QC Type (circle): <b>Standard</b> DOD Q4 DoD Q5			QAPP _____ Other _____		
Matrix (circle one): <b>Water</b> Solid			Circle: 5-mL <b>20-mL</b> Meth Ext 5 g		

Review Items	NA	Yes	No	2 <sup>nd</sup> Rev	Comments
<b>A. Tune / Calibration</b>					
1. Did BFB meet tune criteria? If CFCs, did autotune meet SOP criteria?		✓			
2. Were all standards injected within 12 hours of the BFB? (or 24 hours for 624?)		✓			
3. Were ≥ 5 levels of each compound and surrogate analyzed? (624 has minimum of four standards)		✓			
4. Was low level standard at or below RL?		✓			
5. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)		✓			(Other than those stated in SOP)
6. Do the average RFs meet minimum RF requirements? (624 – not method defined) (8260B-SPCCs = Chloromethane, 1,1-Dichloroethane, Bromoform ≥0.1; Chlorobenzene, 1,1,2,2-Tetrachloroethane ≥0.3)		✓			
7. Did the calibration %RSD meet method requirements? (624: ≤35% all cmpds) (8260B: ≤30% for CCCs & ≤15% for all other cmpds/surrogates)		✓			
8. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?		✓			
9. If regression fit used, is $r^2 \geq 0.990$ ?		✓			
10. At least 6 consecutive points used for quadratic curves?	✓				
11. For quadratic – examine plot: Is a tangent's slope to the curve entirely positive or negative and continuous? (does not flatten or recurve within the range of calibration)	✓				
12. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005); (recommended limits ±30% low point & ±20% all other points) (Chrom Report = Details of Calibration per Analyte)	✓				
13. Is the concentration intercept < RL  for each cmpd? ("X" intercept in Chrom)		✓			
Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2 <sup>nd</sup> review of all MIs required		✓			
14. Was the high point checked for detector saturation?		✓			



Review Items	NA	Yes	No	2nd Rev	Comments
15. Isomeric pairs (checked for elution order/correct peak assignment?) <ul style="list-style-type: none"> <li>• Vinyl Acetate / Isopropyl Ether</li> <li>• 1,2- &amp; 1,3- &amp; 1,4-Dichlorobenzene</li> <li>• Ethylbenzene / m- &amp; p-Xylenes</li> <li>• o-Xylene / Styrene</li> <li>• 1,3,5- &amp; 1,2,4-Trimethylbenzene / Isopropylbenzene / sec-butylbenzene</li> <li>• 2-nitropropane between bromodichloromethane &amp; MIBK</li> <li>• 2- &amp; 4-Chlorotoluene / n-Propylbenzene</li> <li>• MIBK / 2-Hexanone</li> <li>• Methyl Methacrylate / Ethyl Methacrylate</li> <li>• 1,1-Dichloroethene / cis-1,2- &amp; trans-1,2-Dichloroethene</li> <li>• 1,2,3- &amp; 1,2,4-Trichlorobenzene</li> <li>• 1,1-Dichloropropene / cis-1,3- &amp; trans-1,3-Dichloropropene / 1,2,3-Trichloropropane</li> <li>• Chlorobenzene-d5 / 1,1,1,2-Tetrachloroethane</li> <li>• Trichlorofluoromethane / Freon 113</li> <li>• Hexane / Vinyl Acetate</li> </ul> (Chrom: View/Documents/Methods/Isomers)		✓			
16. Was the 2nd source initial calibration verification standard (ICV) within required criteria? (624 = QCS method defined/Table5) (8260B = SOP defined) (DoD = ±20%) QAPP specific		✓			Acrolein -28.6% Isopropyl Alcohol +21.7% Tetrahydrothiophene +25.8%
17. Was the ICV Target report printed and elution order of all analytes verified? (attach at L1 Review)		✓			If No, immediate corrective action required
18. If any criteria from items 1-17 were not met, was a NCM generated and supervisor copied?		✓			
19. Are all files and QC linked and processed correctly?		✓			<input type="checkbox"/> Files linked properly to calibration levels? <input type="checkbox"/> All points are in the most recent active calibration event? [Calibration Events - 'Fix ICAL linkage' if needed] <input type="checkbox"/> Runs linked to BFB? [QC links] <input type="checkbox"/> Checklist & run log scanned, attached & assigned properly?
20. Is the ICAL locked in TALS and Chrom?		✓			
21. ICAL Date and Instrument ID verified?		✓			

Comments:

2<sup>nd</sup> Reviewer:

Review Date:



Sequence Name: C:\msdchem\1\sequence\070818I.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\070818I\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9

DV-MS-0010 (82608/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Time Time: 1316-2345

Line Batch: 421403







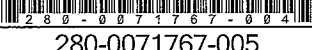

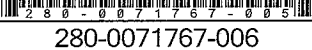
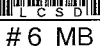
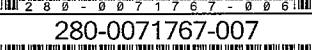
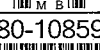
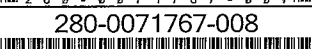
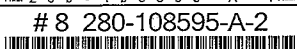




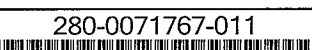
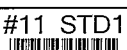
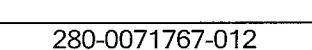
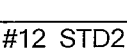
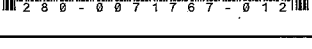
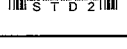
Line	Sample Name/Misc Info
1) Sample	100 MS9_2357 BFB BFB
2) Sample	100 MS9_2358 BFB BFB
3) Sample	100 MS9_2359 BFB BFB
4) Sample	10 MS9_2360 8260 BLK
5) Sample	11 MS9_2361 8260 BLK
6) Sample	12 MS9_2362 8260 STD60
7) Sample	13 MS9_2363 8260 STD30
8) Sample	14 MS9_2364 8260 STD10
9) Sample	15 MS9_2365 8260 STD5
10) Sample	16 MS9_2366 8260 STD2
11) Sample	17 MS9_2367 8260 STD1
12) Sample	18 MS9_2368 8260 STD.3
13) Sample	19 MS9_2369 8260 ICV
14) Sample	20 MS9_2370 8260 STD60
15) Sample	21 MS9_2371 8260 STD30
16) Sample	22 MS9_2372 8260 STD10
17) Sample	23 MS9_2373 8260 STD5
18) Sample	24 MS9_2374 8260 STD2
19) Sample	25 MS9_2375 8260 STD1
20) Sample	26 MS9_2376 8260 ICV
21) Sample	27 MS9_2377 8260 MB
22) Sample	28 MS9_2378 8260 280-111109-a-1 mdlv
23) Sample	29 MS9_2379 8260 280-111109-a-2 mdlv
24) Sample	30 MS9_2380 8260 280-111109-a-3 mdlv
25) Sample	31 MS9_2381 8260 280-111109-a-4 mdlv
26) Sample	32 MS9_2382 8260 280-111109-a-5 mdlv
27) Sample	33 MS9_2383 8260 280-111109-a-5 mdlv
28) Sample	34 MS9_2384 8260 280-111109-a-7 mdlv
29) Sample	35 MS9_2385 8260 280-111109-a-8 mdlv
30) Sample	36 MS9_2386 8260 280-111109-a-9 mdlv
31) Sample	37 MS9_2387 8260 280-111109-a-10 mdlv
32) Sample	38 MS9_2388 8260 280-111109-a-11 mdlv
33) Sample	39 MS9_2389 8260 280-111109-a-11 mdlv
34) Sample	40 MS9_2390 8260 PRIMER
35) Sample	41 MS9_2391 8260 PRIMER

7/4/18











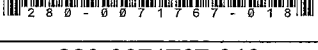
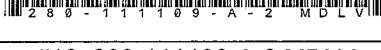
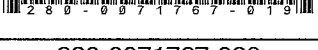
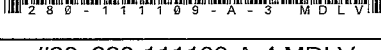
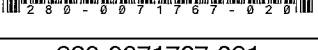
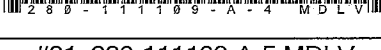
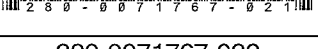
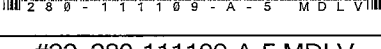
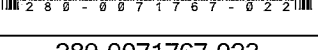
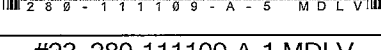
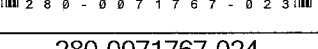
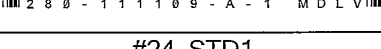
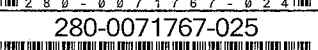
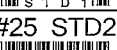


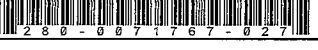





TestAmerica Laboratories  
Worklist Report





















Worklist Name: 070818ICALMDLV      Worklist Number: 71767  
 Instrument Name: VMS\_MS9      Chrom Method: AQ\_VMSMS9\_8260  
 Purge Volume: 20.00      Units: mL  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180708-71767.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014      Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00099      Amount Added: 0.760, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071767-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0071767-002 	# 2 CCV 	MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	CCV		voaWater	20.00	mL	1.000
280-0071767-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0071767-004 	# 4 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCS		voaWater	20.00	mL	1.000
280-0071767-005 	# 5 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCSD		voaWater	20.00	mL	1.000
280-0071767-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0071767-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0071767-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0071767-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0071767-010 	#10 STD03 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	1	voaWater	20.00	mL	1.000
280-0071767-011 	#11 STD1 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	2	voaWater	20.00	mL	1.000
280-0071767-012 	#12 STD2 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	3	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071767-013 	#13 STD5 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	4	voaWater	20.00	mL	1.000
280-0071767-014 	#14 STD10 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	5	voaWater	20.00	mL	1.000
280-0071767-015 	#15 STD30 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	6	voaWater	20.00	mL	1.000
280-0071767-016 	#16 STD60 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	IC	7	voaWater	20.00	mL	1.000
280-0071767-017 	#17 ICV 	MV-Main B_00021 MV-Gas/Ket B_00043 MV-568718-D_00014	ICV		voaWater	20.00	mL	1.000
280-0071767-018 	#18 280-111109-A-2 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-019 	#19 280-111109-A-3 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-020 	#20 280-111109-A-4 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-021 	#21 280-111109-A-5 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-022 	#22 280-111109-A-5 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-023 	#23 280-111109-A-1 MDLV 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	MDLV		voaWater	20.00	mL	1.000
280-0071767-024 	#24 STD1 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	2	voaWater	20.00	mL	1.000
280-0071767-025 	#25 STD2 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	3	voaWater	20.00	mL	1.000
280-0071767-026 	#26 STD5 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	4	voaWater	20.00	mL	1.000
280-0071767-027 	#27 ICIS 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	ICIS	5	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071767-028 	#28 STD30 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	6	voaWater	20.00	mL	1.000
280-0071767-029 	#29 STD60 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	IC	7	voaWater	20.00	mL	1.000
280-0071767-030 	#30 ICV 	MV-Supp B_00021 MV-ARCH SS A_00099 MV-568718-D_00014	ICV		voaWater	20.00	mL	1.000
280-0071767-031 	#31 280-111109-A-7 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-032 	#32 280-111109-A-8 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-033 	#33 280-111109-A-9 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-034 	#34 280-111109-A-10 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-035 	#35 280-111109-A-11 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-036 	#36 280-111109-A-11 MDLV 	MV-568718-D_00014 MV-Supp A_00031 MV-ARCH SS A_00099	MDLV		voaWater	20.00	mL	1.000
280-0071767-037 	#37 Samp 35 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\071218I.S

Comment:

Operator: MEIERG

Data Path: C:\HPCHEM\1\DATA\071218I.S\

Pre-Seq Cmd:

Post-Seq Cmd:

*main/GAS/SS/2-Clene*

Test America Denver

Instrument: *Q*

DV-MS-0010 (8260S/624) (Circle)

Purge Volume: (20mL/5mL/5g)

Tune Time: *13:44-17:11* (Circle)

Lims Batch: *422015*

Method Sections To Run On A Barcode Mismatch  
(X) Full Method (X) Inject Anyway  
( ) Reprocessing Only ( ) Don't Inject

Line Type	Vial	DataFile	Method	Sample Name
1 Sample	100	Q5623	BFB	BFB <i>1344</i>
2 Sample	1	Q5624	8260	IC
3 Sample	2	Q5625	8260	IC
4 Sample	3	Q5626	8260	IC
5 Sample	4	Q5627	8260	IC
6 Sample	5	Q5628	8260	ICIS
7 Sample	6	Q5629	8260	IC
8 Sample	7	Q5630	8260	IC
9 Sample	8	Q5631	8260	BLK
10 Sample	9	Q5632	8260	ICV <i>17:11</i>

*WL 71920 2nd Day*  
*WL 71996 2nd Day*  
*Calib! 33031*

*ICV: 19 422015*

*2nd ICV: 12 422281*

*Not Calibrated For!*

*2-Clene*




















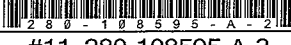
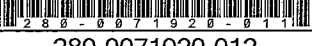
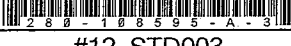


*1st Review *[Signature]* 7/16/18*

*2nd Review *[Signature]* 7-17-18*













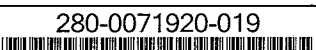

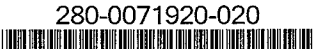





TestAmerica Laboratories  
Worklist Report

Worklist Name: 0712181  
 Instrument Name: VMS\_Q  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180712-71920.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q  
 Run Reagent: MV-568718-D\_00008 Amount Added: 1.000, Units: uL  
 Run Reagent: MV-ARCH SS A\_00098 Amount Added: 0.840, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071920-001 	# 1 BFB 	MV-BFB_00026	BFB		vowater	1.000	uL	1.000
280-0071920-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00070	CCV		vowater	20.00	mL	1.000
280-0071920-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00008	CCV		vowater	20.00	mL	1.000
280-0071920-004 	# 4 CCV 	mv-Pentachlor_00010 MV-568718-D_00008	CCV		vowater	20.00	mL	1.000
280-0071920-005 	# 5 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCS		vowater	20.00	mL	1.000
280-0071920-006 	# 6 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCSD		vowater	20.00	mL	1.000
280-0071920-007 	# 7 LCS 	MV-Supp B_00020	LCS		vowater	20.00	mL	1.000
280-0071920-008 	# 8 MB 		MB		vowater	20.00	mL	1.000
280-0071920-009 	# 9 280-108595-A-1 		Client		vowater	20.00	mL	1.000
280-0071920-010 	#10 280-108595-A-2 		Client		vowater	20.00	mL	1.000
280-0071920-011 	#11 280-108595-A-3 		Client		vowater	20.00	mL	1.000
280-0071920-012 	#12 STD003 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	1	vowater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071920-013 	#13 STD010 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	2	voaWater	20.00	mL	1.000
280-0071920-014 	#14 STD020 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	3	voaWater	20.00	mL	1.000
280-0071920-015 	#15 STD050 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	4	voaWater	20.00	mL	1.000
280-0071920-016 	#16 STD10 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	5	voaWater	20.00	mL	1.000
280-0071920-017 	#17 STD30 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	6	voaWater	20.00	mL	1.000
280-0071920-018 	#18 STD60 	MV-Gas/Ket A_00070 MV-Main A_00037 MV-2cleve+AVA_00036 MV-568718-D_00008 MV-ARCH SS A_00098	IC	7	voaWater	20.00	mL	1.000
280-0071920-019 	#19 ICV 	MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	ICV		voaWater	20.00	mL	1.000
280-0071920-020 	#20 primer 		Client		voaWater	20.00	mL	1.000
280-0071920-021 	#21 primer 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\HPCHEM\1\SEQUENCE\071618.S

Comment:

Operator: SEIFERTJ

Data Path: C:\HPCHEM\1\DATA\071618.s\

Pre-Seq Cmd:

Post-Seq Cmd:

Test America Denver

Instrument: Q

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

UV-MS-0010 (82603/624) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Tune Time: 0855-2018

Ums Batch: 422281

Line Type Vial DataFile Method Sample Name

1 Sample	100 Q5635	BFB	BFB
2 Sample	10 Q5636	8260	BLK
3 Sample	11 Q5637	8260	ICV
4 Sample	12 Q5638	8260	CCV
5 Sample	13 Q5639	8260	CCV
6 Sample	14 Q5640	8260	LCS
7 Sample	15 Q5641	8260	MB
8 Sample	16 Q5642	8260	280-111186-a-31 PH<2
9 Sample	17 Q5643	8260	280-111186-b-32 PH<2
10 Sample	18 Q5644	8260	280-111186-d-33 PH<2
11 Sample	19 Q5645	8260	280-111186-c-34 PH<2
12 Sample	20 Q5646	8260	280-111186-d-35 PH<2
13 Sample	21 Q5647	8260	280-111186-b-36 PH<2
14 Sample	22 Q5648	8260	280-111655-d-2 PH<2
15 Sample	23 Q5649	8260	280-111655-d-2 5mL PH<2
16 Sample	24 Q5650	8260	280-111655-b-2 MS PH<2
17 Sample	25 Q5651	8260	280-111655-b-2 MSD PH<2
18 Sample	26 Q5652	8260	280-111655-c-3 10ML PH<2
19 Sample	27 Q5653	8260	280-111655-c-3 1mL PH<2
20 Sample	28 Q5654	8260	280-111655-e-4 10mL PH<2
21 Sample	29 Q5655	8260	280-111655-e-4 1mL PH<2
22 Sample	30 Q5656	8260	280-111655-c-5 PH<2
23 Sample	31 Q5657	8260	280-111655-d-6 PH<2
24 Sample	32 Q5658	8260	280-111847-g-1 PH=7
25 Sample	33 Q5659	8260	280-111847-c-2 PH=7
26 Sample	34 Q5660	8260	280-111847-a-3 PH=7
27 Sample	35 Q5661	8260	280-111850-b-1 PH=7
28 Sample	36 Q5662	8260	280-111850-h-2 PH=7
29 Sample	37 Q5663	8260	280-111850-h-3 PH=7
30 Sample	38 Q5664	8260	280-111850-h-4 PH=7
31 Sample	39 Q5665	8260	280-111655-c-3 1mL PH<2
32 Sample	40 Q5666	8260	280-111936-d-1 SCREENS
33 Sample	41 Q5667	8260	280-111936-d-2
34 Sample	42 Q5668	8260	280-111936-d-3
35 Sample	43 Q5669	8260	280-111936-d-4
36 Sample	44 Q5670	8260	280-111936-b-6
37 Sample	45 Q5671	8260	280-111936-b-7
38 Sample	46 Q5672	8260	280-111936-b-8
39 Sample	47 Q5673	8260	280-111936-e-9
40 Sample	48 Q5674	8260	280-111936-c-11
41 Sample	49 Q5675	8260	280-111936-b-12
42 Sample	50 Q5676	8260	280-111936-b-13
43 Sample	51 Q5677	8260	280-111936-c-14

JK  
7/17/18

E  
BAD Purge  
E

15

20:18  
DNR



Line Type	Vial	DataFile	Method	Sample Name
-----------	------	----------	--------	-------------

44 Sample	1	Q5678	8260	280-111944-a-2
45 Sample	2	Q5679	8260	280-111944-b-3
46 Sample	3	Q5680	8260	280-111944-a-4
47 Sample	4	Q5681	8260	280-111944-b-5
48 Sample	5	Q5682	8260	280-111944-a-6
49 Sample	6	Q5683	8260	280-111944-b-7
50 Sample	7	Q5684	8260	280-111944-b-8
51 Sample	8	Q5685	8260	PRIMER
52 Sample	9	Q5686	8260	PRIMER



TestAmerica Laboratories  
Worklist Report

Worklist Name: 071618

Worklist Number: 71996

Instrument Name: VMS\_Q

Chrom Method: AQ\_VMSQ\_8260

Purge Volume: 20.00

Units: mL

Analysis Type: VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_Q\20180716-71996.b







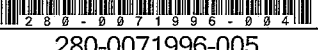

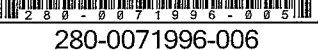
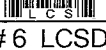
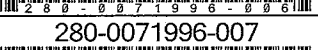

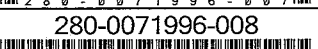
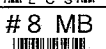












Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_Q

Run Reagent: MV-568718-D\_00008

































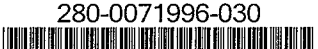

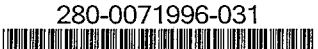

Amount Added: 1.000, Units: uL

Run Reagent: MV-ARCH SS A\_00098











Amount Added: 0.840, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0071996-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00070	CCV	voaWater	20.00	mL	1.000
280-0071996-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071996-004 	# 4 CCV 	mv-Pentachlor_00010 MV-568718-D_00008	CCV	voaWater	20.00	mL	1.000
280-0071996-005 	# 5 LCS 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCS	voaWater	20.00	mL	1.000
280-0071996-006 	# 6 LCSD 	MV-Main B_00020 MV-SS 2-Cleve_00043 MV-Gas/Ket B_00043	LCSD	voaWater	20.00	mL	1.000
280-0071996-007 	# 7 LCS 	MV-Supp B_00020	LCS	voaWater	20.00	mL	1.000
280-0071996-008 	# 8 MB 		MB	voaWater	20.00	mL	1.000
280-0071996-009 	# 9 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0071996-010 	#10 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0071996-011 	#11 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0071996-012 	#12 ICV 	MV-Main B_00020 MV-568718-D_00008	ICV	voaWater	20.00	mL	1.000
280-0071996-013 	#13 280-111186-A-31 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-014 	#14 280-111186-B-32 		Client	voaWater	20.00	mL	1.000
280-0071996-015 	#15 280-111186-D-33 		Client	voaWater	20.00	mL	1.000
280-0071996-016 	#16 280-111186-C-34 		Client	voaWater	20.00	mL	1.000
280-0071996-017 	#17 280-111186-D-35 		Client	voaWater	20.00	mL	1.000
280-0071996-018 	#18 280-111186-B-36 		Client	voaWater	20.00	mL	1.000
280-0071996-019 	#19 280-111655-D-2 		Client	voaWater	20.00	mL	1.000
280-0071996-020 	#20 280-111655-D-2 		Client	voaWater	20.00	mL	4.000
280-0071996-021 	#21 280-111655-B-2 MS 	MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043 MV-Main B_00020	MS	voaWater	20.00	mL	1.000
280-0071996-022 	#22 280-111655-B-2 MSD 	MV-Gas/Ket B_00043 MV-SS 2-Cleve_00043 MV-Main B_00020	MSD	voaWater	20.00	mL	1.000
280-0071996-023 	#23 280-111655-C-3 		Client	voaWater	20.00	mL	2.000
280-0071996-024 	#24 280-111655-C-3 		Client	voaWater	20.00	mL	20.00
280-0071996-025 	#25 280-111655-E-4 		Client	voaWater	20.00	mL	2.000
280-0071996-026 	#26 280-111655-E-4 		Client	voaWater	20.00	mL	20.00
280-0071996-027 	#27 280-111655-C-5 		Client	voaWater	20.00	mL	1.000
280-0071996-028 	#28 280-111655-D-6 		Client	voaWater	20.00	mL	1.000
280-0071996-029 	#29 280-111847-G-1 		Client	voaWater	20.00	mL	1.000
280-0071996-030 	#30 280-111847-C-2 		Client	voaWater	20.00	mL	1.000
280-0071996-031 	#31 280-111847-A-3 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0071996-032 	#32 280-111850-B-1 		Client	voaWater	20.00	mL	1.000
280-0071996-033 	#33 280-111850-H-2 		Client	voaWater	20.00	mL	1.000
280-0071996-034 	#34 280-111850-H-3 		Client	voaWater	20.00	mL	1.000
280-0071996-035 	#35 280-111850-H-4 		Client	voaWater	20.00	mL	1.000
280-0071996-036 	#36 Samp 36 		Client	voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\071618PM.S

Comment:

Operator: LINESJ

Data Path: C:\MSDCHEM\1\DATA\071318PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9

DV-MS-0010 (200B/624) (Circle)

Purge Volume: (20mL/5mL/5g) (Circle)

Tune Time: 2208-0056

Line Batch: 422406

Line	Sample Name/Misc Info
1) Sample	100 MS9_2581 BFB BFB
2) Sample	100 MS9_2582 BFB BFB
3) Sample	10 MS9_2583 8260 BLK
4) Sample	11 MS9_2584 8260 CCV M
5) Sample	12 MS9_2585 8260 CCV S
6) Sample	100 MS9_2586 BFB BFB
7) Sample	100 MS9_2587 BFB BFB
8) Sample	10 MS9_2588 BFB BLK
9) Sample	100 MS9_2589 BFB BFB
10) Sample	100 MS9_2590 BFB BFB TUNE ADJ
11) Sample	10 MS9_2591 8260 CCV M
12) Sample	11 MS9_2592 8260 CCV S
13) Sample	12 MS9_2593 8260 STD2
14) Sample	13 MS9_2594 8260 STD5
15) Sample	14 MS9_2595 8260 STD10
16) Sample	15 MS9_2596 8260 STD30
17) Sample	16 MS9_2597 8260 STD60
18) Sample	17 MS9_2598 8260 ICV

7/17/18

RSN 7/17/18

ICV Line: 15

SS  
ICAL



TestAmerica Laboratories  
Worklist Report

Worklist Name: 071618pm

Worklist Number: 72029

Instrument Name: VMS\_MS9

Chrom Method: AQ\_VMSMS9\_8260

Purge Volume: 20.00

Units: mL

Analysis Type: VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180716-72029.b



























Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9

Run Reagent: MV-568718-D\_00014









Amount Added: 1.000, Units: uL

Run Reagent: MV-ARCH SS A\_00099

Amount Added: 0.880, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072029-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0072029-002 	# 2 CCV 	MV-Main A_00037 MV-2cleve+AVA_00036 MV-Gas/Ket A_00075	CCV		voaWater	20.00	mL	1.000
280-0072029-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0072029-004 	# 4 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCS		voaWater	20.00	mL	1.000
280-0072029-005 	# 5 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00043	LCSD		voaWater	20.00	mL	1.000
280-0072029-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0072029-007 	# 7 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0072029-008 	# 8 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0072029-009 	# 9 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0072029-010 	#10 STD2 	MV-568718-D_00014 MV-ARCH SS A_00099	IC	3	voaWater	20.00	mL	1.000
280-0072029-011 	#11 STD5 	MV-568718-D_00014 MV-ARCH SS A_00099	IC	4	voaWater	20.00	mL	1.000
280-0072029-012 	#12 STD10 	MV-568718-D_00014 MV-ARCH SS A_00099	IC	5	voaWater	20.00	mL	1.000
280-0072029-013 	#13 STD30 	MV-568718-D_00014 MV-ARCH SS A_00099	IC	6	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072029-014 	#14 STD60 	MV-568718-D_00014 MV-ARCH SS A_00099	IC	7	voaWater	20.00	mL	1.000
280-0072029-015 	#15 ICV 		ICV		voaWater	20.00	mL	1.000
280-0072029-016 	#16 Samp 44 		Client		voaWater	20.00	mL	1.000
280-0072029-017 	#17 Samp 45 		Client		voaWater	20.00	mL	1.000



5011 - Main/Supp

## GCMS Volatile ICAL Data Review Checklist

LIMS Batch Number: <b>422928</b>	Worklist #: <b>72152</b>	ICAL Event #: <b>33082, 33081</b>	ICIS/ICV Line #s: <b>20/26/29</b>	2 <sup>nd</sup> Day ICV Line# <b>-</b>	Instrument ID: <b>G2</b>
2 <sup>nd</sup> Day Batch/ICV Lines: _____					
Analyst/1 <sup>st</sup> Reviewer: <b>RSN</b>		Prep Method (circle): 5030 <b>5035-L</b> 5035-H		Analytical Method (circle): 624 <b>8260B</b> SIM Other _____	
Date: <b>7/19/18</b>					
QC Type (circle): <b>Standard</b> <b>DOD Q4</b> <b>DoD Q5</b>		QAPP _____		Other _____	
Matrix (circle one): <b>Water</b> <b>Solid</b>		Circle: 5-mL 20-mL Meth Ext <b>5 g</b>			

Review Items	NA	Yes	No	2 <sup>nd</sup> Rev	Comments
<b>A. Tune / Calibration</b>					
1. Did BFB meet tune criteria? If CFCs, did autotune meet SOP criteria?		X		/	
2. Were all standards injected within 12 hours of the BFB? (or 24 hours for 624?)		X		/	
3. Were ≥ 5 levels of each compound and surrogate analyzed? (624 has minimum of four standards)		X		/	
4. Was low level standard at or below RL?		X		/	
5. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)		X		/	(Other than those stated in SOP)
6. Do the average RFs meet minimum RF requirements? (624 – not method defined) (8260B-SPCCs = Chloromethane, 1,1-Dichloroethane, Bromoform ≥0.1; Chlorobenzene, 1,1,2,2-Tetrachloroethane ≥0.3)		X		/	
7. Did the calibration %RSD meet method requirements? (624: ≤35% all cmpds) (8260B: ≤30% for CCCs & ≤15% for all other cmpds/surrogates)		X		/	
8. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?		X		/	
9. If regression fit used, is $r^2 \geq 0.990$ ?		X		/	
10. At least 6 consecutive points used for quadratic curves?		X		/	
11. For quadratic – examine plot: Is a tangent's slope to the curve entirely positive or negative and continuous? (does not flatten or recurve within the range of calibration)		X		/	
12. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005); (recommended limits ±30% low point & ±20% all other points) (Chrom Report = Details of Calibration per Analyte)		X		/	
13. Is the concentration intercept <  RL  for each cmpd? ("X" intercept in Chrom)		X		/	
Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2 <sup>nd</sup> review of all MIs required		X		/	
14. Was the high point checked for detector saturation?		X		/	



Review Items	NA	Yes	No	2nd Rev	Comments
15. Isomeric pairs (checked for elution order/correct peak assignment?) <ul style="list-style-type: none"> <li>• Vinyl Acetate / Isopropyl Ether</li> <li>• 1,2- &amp; 1,3- &amp; 1,4-Dichlorobenzene</li> <li>• Ethylbenzene / m- &amp; p-Xylenes</li> <li>• o-Xylene / Styrene</li> <li>• 1,3,5- &amp; 1,2,4-Trimethylbenzene / Isopropylbenzene / sec-butylbenzene</li> <li>• 2-nitropropane between bromodichloromethane &amp; MIBK</li> <li>• 2- &amp; 4-Chlorotoluene / n-Propylbenzene</li> <li>• MIBK / 2-Hexanone</li> <li>• Methyl Methacrylate / Ethyl Methacrylate</li> <li>• 1,1-Dichloroethene / cis-1,2- &amp; trans-1,2-Dichloroethene</li> <li>• 1,2,3- &amp; 1,2,4-Trichlorobenzene</li> <li>• 1,1-Dichloropropene / cis-1,3- &amp; trans-1,3-Dichloropropene / 1,2,3-Trichloropropane</li> <li>• Chlorobenzene-d5 / 1,1,1,2-Tetrachloroethane</li> <li>• Trichlorofluoromethane / Freon 113</li> <li>• Hexane / Vinyl Acetate</li> </ul> (Chrom: View/Documents/Methods/Isomers)		X		✓	
16. Was the 2nd source initial calibration verification standard (ICV) within required criteria? (624 = QCS method defined/Table5) (8260B = SOP defined) (DoD = ±20%) QAPP specific		X		✓	No Gases
17. Was the ICV Target report printed and elution order of all analytes verified? (attach at L1 Review)		X		✓	If No, immediate corrective action required
18. If any criteria from items 1-17 were not met, was a NCM generated and supervisor copied?		X		✓	
19. Are all files and QC linked and processed correctly?		X		✓	<input type="checkbox"/> Files linked properly to calibration levels? <input type="checkbox"/> All points are in the most recent active calibration event? [Calibration Events – 'Fix ICAL linkage' if needed] <input type="checkbox"/> Runs linked to BFB? [QC links] <input type="checkbox"/> Checklist & run log scanned, attached & assigned properly?
20. Is the ICAL locked in TALS and Chrom?		X		✓	
21. ICAL Date and Instrument ID verified?		X		✓	

Comments:

2<sup>nd</sup> Reviewer:

Review Date:



Sequence Name: C:\msdchem\1\sequence\071918LL.s

Comment:

Operator: newcomer

Data Path: C:\msdchem\1\DATA\071918LL\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

instrument: G2  
DV-MS-0010 (8260S/624) (Circle)

Purge Volume: (20mL/5mL) (5g) (Circle)

Tune Time: 1859-0635

Line Batch: 422928

Method Sections To Run

Sequence Barcode Options

(X) Full Method

(X) On Mismatch, Inject Anyway

( ) Reprocessing Only

( ) On Mismatch, Don't Inject

( ) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample	100 G2_5565 BFBS BFB
2) Sample	1 G2_5566 8260S Blank
3) Sample	2 G2_5567 8260S STD01
4) Sample	3 G2_5568 8260S STD02
5) Sample	4 G2_5569 8260S STD05
6) Sample	5 G2_5570 8260S STD10
7) Sample	6 G2_5571 8260S STD20
8) Sample	7 G2_5572 8260S STD50
9) Sample	8 G2_5573 8260S STD100
10) Sample	9 G2_5574 8260S STD200
11) Sample	10 G2_5575 8260S Blank
12) Sample	11 G2_5576 8260S ICV
13) Sample	12 G2_5577 8260S balnk
14) Sample	13 G2_5578 8260S STD01
15) Sample	14 G2_5579 8260S STD02
16) Sample	15 G2_5580 8260S STD05
17) Sample	16 G2_5581 8260S STD10
18) Sample	17 G2_5582 8260S STD20
19) Sample	18 G2_5583 8260S ICIS
20) Sample	19 G2_5584 8260S STD100
21) Sample	20 G2_5585 8260S STD200
22) Sample	21 G2_5586 8260S ICV
23) Sample	22 G2_5587 8260S MB
24) Sample	23 G2_5588 8260S MDLV1
25) Sample	24 G2_5589 8260S MDLV2
26) Sample	25 G2_5590 8260S MDLV3
27) Sample	26 G2_5591 8260S MDLV4
28) Sample	27 G2_5592 8260S MDLV5
29) Sample	28 G2_5593 8260S MDLV6
30) Sample	29 G2_5594 8260S MDLV1
31) Sample	30 G2_5595 8260S MDLV2
32) Sample	31 G2_5596 8260S MDLV3
33) Sample	32 G2_5597 8260S MDLV4
34) Sample	33 G2_5598 8260S MDLV5
35) Sample	34 G2_5599 8260S MDLV6
36) Sample	35 G2_5600 8260S Blank

RSN

7/20/18



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 071918LL Worklist Number: 72152  
Instrument Name: VMS\_G2 Chrom Method: SO\_VMSG2\_8260  
Data Directory: \\ChromNA\Denver\ChromData\VMS\_G2\20180719-72152.b  
QC Batching: Disabled Limit Group Batching: Enabled





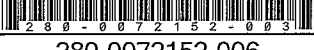

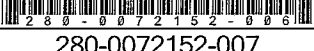

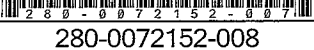
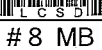
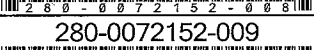
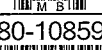
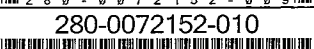
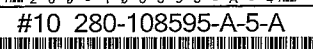
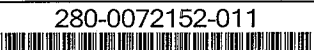











QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 422928	MSV - 624 Raw Batch: 423089
# 1 BFB	# 1 BFB	<del>#12 STD01</del>
# 2 CCV	# 2 CCV	<del>#13 STD02</del>
# 3 CCV	# 3 CCV	<del>#14 STD05</del>
# 6 LCS	# 6 LCS	<del>#15 STD10</del>
# 7 LCSD	# 7 LCSD	<del>#16 STD20</del>
# 8 MB	# 8 MB	<del>#17 STD50</del>
# 9 280-108595-A-4	# 9 280-108595-A-4	<del>#18 STD100</del>
#10 280-108595-A-5-A	#10 280-108595-A-5-A	<del>#19 STD200</del>
#11 280-108595-A-6	#11 280-108595-A-6	<del>#20 ICV</del>
#12 STD01	#12 STD01	<del>#21 STD01</del>
#13 STD02	#13 STD02	<del>#22 STD02</del>
#14 STD05	#14 STD05	<del>#23 STD05</del>
#15 STD10	#15 STD10	<del>#24 STD10</del>
#16 STD20	#16 STD20	<del>#25 STD20</del>
#17 STD50	#17 STD50	<del>#26 ICIS</del>
#18 STD100	#18 STD100	<del>#27 STD100</del>
#19 STD200	#19 STD200	<del>#28 STD200</del>
#20 ICV	#20 ICV	
#21 STD01	#21 STD01	
#22 STD02	#22 STD02	
#23 STD05	#23 STD05	
#24 STD10	#24 STD10	
#25 STD20	#25 STD20	
#26 ICIS	#26 ICIS	
#27 STD100	#27 STD100	
#28 STD200	#28 STD200	
#29 ICV	#29 ICV	
#30 MDLV	#30 MDLV	
#31 MDLV	#31 MDLV	
#32 MDLV	#32 MDLV	
#33 MDLV	#33 MDLV	
#34 MDLV	#34 MDLV	
#35 MDLV	#35 MDLV	
#36 MDLV	#36 MDLV	
#37 MDLV	#37 MDLV	
#38 MDLV	#38 MDLV	
#39 MDLV	#39 MDLV	
#40 MDLV	#40 MDLV	
#41 MDLV	#41 MDLV	
#42 MDLV	#42 MDLV	
#43 Samp 43	#43 Samp 43	

RSN  
7/20/18







































TestAmerica Laboratories  
Worklist Report





















Worklist Name: 071918LL  
 Instrument Name: VMS\_G2  
 Injection Volume: 1.000  
 Analysis Type: Semi VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_G2\20180719-72152.b  
 Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_G2  
 Run Reagent: MV-568718-D\_00003  
 Worklist Number: 72152  
 Chrom Method: SO\_VMSG2\_8260  
 Units: uL  
 Amount Added: 1.000, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072152-001 	# 1 BFB 	MV-BFB_00026	BFB		voaSoiLL	1.000	uL	1.000
280-0072152-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00075	CCV		voaSoiLL	5.000	g	1.000
280-0072152-003 	# 3 CCV 	MV-568718-D_00003 MV-Supp A_00031	CCV		voaSoiLL	5.000	g	1.000
280-0072152-006 	# 6 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00044	LCS		voaSoiLL	5.000	g	1.000
280-0072152-007 	# 7 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00044	LCSD		voaSoiLL	5.000	g	1.000
280-0072152-008 	# 8 MB 		MB		voaSoiLL	5.000	g	1.000
280-0072152-009 	# 9 280-108595-A-4 		Client		voaSoiLL	5.000	g	1.000
280-0072152-010 	#10 280-108595-A-5-A 		Client		voaSoiLL	5.000	g	1.000
280-0072152-011 	#11 280-108595-A-6 		Client		voaSoiLL	5.000	g	1.000
280-0072152-012 	#12 STD01 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	1	voaSoiLL	5.000	g	1.000
280-0072152-013 	#13 STD02 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	2	voaSoiLL	5.000	g	1.000
280-0072152-014 	#14 STD05 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	3	voaSoiLL	5.000	g	1.000
280-0072152-015 	#15 STD10 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	4	voaSoiLL	5.000	g	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072152-016 	#16 STD20 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	5	voaSoiLL	5.000	g	1.000
280-0072152-017 	#17 STD50 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	6	voaSoiLL	5.000	g	1.000
280-0072152-018 	#18 STD100 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	7	voaSoiLL	5.000	g	1.000
280-0072152-019 	#19 STD200 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	IC	8	voaSoiLL	5.000	g	1.000
280-0072152-020 	#20 ICV 	MV-Main B_00021 <del>MV-Gas/Ket B_00044</del> MV-SS 2-Cleve_00045	ICV		voaSoiLL	5.000	g	1.000
280-0072152-021 	#21 STD01 	MV-Supp A_00031 MV-ARCH SS A_00100	IC	1	voaSoiLL	5.000	g	1.000
280-0072152-022 	#22 STD02 	MV-Supp A_00031 MV-ARCH SS A_00100	IC	2	voaSoiLL	5.000	g	1.000
280-0072152-023 	#23 STD05 	MV-Supp A_00031 MV-ARCH SS A_00100	IC	3	voaSoiLL	5.000	g	1.000
280-0072152-024 	#24 STD10 	MV-Supp A_00031 MV-ARCH SS A_00100	IC	4	voaSoiLL	5.000	g	1.000
280-0072152-025 	#25 STD20 	MV-Supp A_00031 MV-ARCH SS A_00100	IC	5	voaSoiLL	5.000	g	1.000
280-0072152-026 	#26 ICIS 	MV-Supp A_00031 MV-ARCH SS A_00100	ICIS	6	voaSoiLL	5.000	g	1.000
280-0072152-027 	#27 STD100 	MV-Supp A_00031 MV-ARCH SS A_00100	IC	7	voaSoiLL	5.000	g	1.000
280-0072152-028 	#28 STD200 	MV-Supp A_00031 MV-ARCH SS A_00100	IC	8	voaSoiLL	5.000	g	1.000
280-0072152-029 	#29 ICV 	MV-Supp B_00021 MV-ARCH SS A_00100	ICV		voaSoiLL	5.000	g	1.000
280-0072152-044 	#44 MB 		MB		voaSoiLL	5.000	g	1.000
280-0072152-030 	#30 MDLV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-031 	#31 MDLV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-032 	#32 MDLV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	MDLV		voaSoiLL	5.000	g	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072152-033 	#33 MDLV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-034 	#34 MDLV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-035 	#35 MDLV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2cleve+AVA_00036	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-036 	#36 MDLV 	MV-Supp A_00031 MV-ARCH SS A_00100	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-037 	#37 MDLV 	MV-Supp A_00031 MV-ARCH SS A_00100	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-038 	#38 MDLV 	MV-Supp A_00031 MV-ARCH SS A_00100	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-039 	#39 MDLV 	MV-Supp A_00031 MV-ARCH SS A_00100	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-040 	#40 MDLV 	MV-Supp A_00031 MV-ARCH SS A_00100	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-041 	#41 MDLV 	MV-Supp A_00031 MV-ARCH SS A_00100	MDLV		voaSoiLL	5.000	g	1.000
280-0072152-042 	#42 Samp 42 		Client		voaSoiLL	5.000	g	1.000



Soil - Gas only

## GCMS Volatile ICAL Data Review Checklist

LIMS Batch Number: <b>423317</b>	Worklist #: <b>72254</b>	ICAL Event #: <b>33107</b>	ICIS/ICV Line #s: <b>18</b>	2 <sup>nd</sup> Day ICV Line# <b>—</b>	Instrument ID: <b>G2</b>
2 <sup>nd</sup> Day Batch/ICV Lines: <b>—</b>					
Analyst/1 <sup>st</sup> Reviewer: <b>RSN</b>		Prep Method (circle): <b>5030</b> <b>5035-L</b> 5035-H		Analytical Method (circle): <b>624</b> <b>8260B</b> SIM Other <b>—</b>	
Date: <b>7/23/18</b>					
QC Type (circle): <b>Standard</b> <b>DOD Q4</b> <b>DoD Q5</b>		QAPP <b>—</b>		Other <b>—</b>	
Matrix (circle one): <b>Water</b> <b>Solid</b>		Circle: <b>5-mL</b> 20-mL		Meth Ext <b>5 g</b>	

Review Items	NA	Yes	No	2 <sup>nd</sup> Rev	Comments
<b>A. Tune / Calibration</b>					
1. Did BFB meet tune criteria? If CFCs, did autotune meet SOP criteria?		X		/	
2. Were all standards injected within 12 hours of the BFB? (or 24 hours for 624?)		X		/	
3. Were $\geq 5$ levels of each compound and surrogate analyzed? (624 has minimum of four standards)		X		/	
4. Was low level standard at or below RL?		X		/	
5. If calibration points removed, were reasons for removal documented? Did sufficient calibration points remain? (removal from middle of curve not allowed)		X		/	(Other than those stated in SOP)
6. Do the average RFs meet minimum RF requirements? (624 – not method defined) (8260B-SPCCs = Chloromethane, 1,1-Dichloroethane, Bromoform $\geq 0.1$ ; Chlorobenzene, 1,1,2,2-Tetrachloroethane $\geq 0.3$ )		X		/	
7. Did the calibration %RSD meet method requirements? (624: $\leq 35\%$ all cmpds) (8260B: $\leq 30\%$ for CCCs & $\leq 15\%$ for all other cmpds/surrogates)		X		/	
8. Was a linear or quadratic regression fit used for analytes that exceeded the %RSD requirements?		X		-	
9. If regression fit used, is $r^2 \geq 0.990$ ?		X		/	
10. At least 6 consecutive points used for quadratic curves?	X	<del>X</del>		-	RSN 7/25/18
11. For quadratic – examine plot: Is a tangent's slope to the curve entirely positive or negative and continuous? (does not flatten or recurve within the range of calibration)	X			/	
12. For quadratic – evaluate curve fitting errors: Does each point fall within criteria when 'read-back' against the curve? (TA requirement – CA-Q-S-005); (recommended limits $\pm 30\%$ low point & $\pm 20\%$ all other points) (Chrom Report = Details of Calibration per Analyte)	X			/	
13. Is the concentration intercept $<  RL $ for each cmpd? ("X" intercept in Chrom)		X		-	
Were manual integrations performed correctly and properly documented? (dated, initialed and reason given) 2 <sup>nd</sup> review of all MIs required		X		-	
14. Was the high point checked for detector saturation?		X		-	



Review Items	NA	Yes	No	2nd Rev	Comments
15. Isomeric pairs (checked for elution order/correct peak assignment?) <ul style="list-style-type: none"> <li>• Vinyl Acetate / Isopropyl Ether</li> <li>• 1,2- &amp; 1,3- &amp; 1,4-Dichlorobenzene</li> <li>• Ethylbenzene / m- &amp; p-Xylenes</li> <li>• o-Xylene / Styrene</li> <li>• 1,3,5- &amp; 1,2,4-Trimethylbenzene / Isopropylbenzene / sec-butylbenzene</li> <li>• 2-nitropropane between bromodichloromethane &amp; MIBK</li> <li>• 2- &amp; 4-Chlorotoluene / n-Propylbenzene</li> <li>• MIBK / 2-Hexanone</li> <li>• Methyl Methacrylate / Ethyl Methacrylate</li> <li>• 1,1-Dichloroethene / cis-1,2- &amp; trans-1,2-Dichloroethene</li> <li>• 1,2,3- &amp; 1,2,4-Trichlorobenzene</li> <li>• 1,1-Dichloropropene / cis-1,3- &amp; trans-1,3-Dichloropropene / 1,2,3-Trichloropropane</li> <li>• Chlorobenzene-d5 / 1,1,1,2-Tetrachloroethane</li> <li>• Trichlorofluoromethane / Freon 113</li> <li>• Hexane / Vinyl Acetate</li> </ul> (Chrom: View/Documents/Methods/Isomers)		X		/	
16. Was the 2nd source initial calibration verification standard (ICV) within required criteria? (624 = QCS method defined/Table5) (8260B = SOP defined) (DoD = $\pm 20\%$ ) QAPP specific		X		/	
17. Was the ICV Target report printed and elution order of all analytes verified? (attach at L1 Review)		X		/	If No, immediate corrective action required
18. If any criteria from items 1-17 were not met, was a NCM generated and supervisor copied?		X		/	
19. Are all files and QC linked and processed correctly?		X		/	<input type="checkbox"/> Files linked properly to calibration levels? <input type="checkbox"/> All points are in the most recent active calibration event? [Calibration Events – 'Fix ICAL linkage' if needed] <input type="checkbox"/> Runs linked to BFB? [QC links] <input type="checkbox"/> Checklist & run log scanned, attached & assigned properly?
20. Is the ICAL locked in TALS and Chrom?		X		/	
21. ICAL Date and Instrument ID verified?		X		/	

Comments:

2<sup>nd</sup> Reviewer:

Review Date:



TestAmerica Laboratories  
Worklist Report

Worklist Name: 072318LL

Worklist Number: 72254

Instrument Name: VMS\_G2

Chrom Method: SO\_VMSG2\_8260

Injection Volume: 1.000

Units: uL

Analysis Type: Semi VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_G2\20180723-72254.b



























Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_G2

Run Reagent: MV-568718-D\_00003





































Amount Added: 1.000, Units: uL

Run Reagent: MV-ARCH SS A\_00100





















Amount Added: 0.880, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072254-001 	# 1 BFB 	MV-BFB_00026	BFB		voaSoiLL	1.000	uL	1.000
280-0072254-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00075	CCV		voaSoiLL	5.000	g	1.000
280-0072254-003 	# 3 CCV 	MV-568718-D_00003 MV-Supp A_00031	CCV		voaSoiLL	5.000	g	1.000
280-0072254-004 	# 4 LCS 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00044	LCS		voaSoiLL	5.000	g	1.000
280-0072254-005 	# 5 LCSD 	MV-SS 2-Cleve_00045 MV-Main B_00021 MV-Gas/Ket B_00044	LCSD		voaSoiLL	5.000	g	1.000
280-0072254-006 	# 6 MB 		MB		voaSoiLL	5.000	g	1.000
280-0072254-007 	# 7 280-108595-A-4 		Client		voaSoiLL	5.000	g	1.000
280-0072254-008 	# 8 280-108595-A-5-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-009 	# 9 280-108595-A-6 		Client		voaSoiLL	5.000	g	1.000
280-0072254-010 	#10 STD01 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	1	voaSoiLL	5.000	g	1.000
280-0072254-011 	#11 STD02 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	2	voaSoiLL	5.000	g	1.000
280-0072254-012 	#12 STD05 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	3	voaSoiLL	5.000	g	1.000
280-0072254-013 	#13 STD10 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	4	voaSoiLL	5.000	g	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072254-014 	#14 STD20 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	5	voaSoiLL	5.000	g	1.000
280-0072254-015 	#15 STD50 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	6	voaSoiLL	5.000	g	1.000
280-0072254-016 	#16 STD100 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	7	voaSoiLL	5.000	g	1.000
280-0072254-017 	#17 STD200 	MV-568718-D_00003 MV-Gas/Ket A_00075	IC	8	voaSoiLL	5.000	g	1.000
280-0072254-018 	#18 ICV 	MV-568718-D_00003 MV-Gas/Ket B_00044	ICV		voaSoiLL	5.000	g	1.000
280-0072254-019 	#19 CCV 	MV-Main A_00037 MV-Gas/Ket A_00075 MV-2Cleve+AVA_00036	CCV		voaSoiLL	5.000	g	1.000
280-0072254-020 	#20 CCV 	MV-568718-D_00003 MV-Supp A_00031	CCV		voaSoiLL	5.000	g	1.000
280-0072254-021 	#21 LCS 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	LCS		voaSoiLL	5.000	g	1.000
280-0072254-022 	#22 LCSD 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	LCSD		voaSoiLL	5.000	g	1.000
280-0072254-023 	#23 MB 		MB		voaSoiLL	5.000	g	1.000
280-0072254-024 	#24 280-111966-F-5-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-025 	#25 280-111966-F-9-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-026 	#26 280-111956-C-3-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-027 	#27 280-111956-C-4-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-028 	#28 280-111956-C-5-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-029 	#29 280-111956-E-6-A 		Client		voaSoiLL	5.000	g	1.000
280-0072254-030 	#30 280-111956-F-6-A MS 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	MS		voaSoiLL	5.000	g	1.000
280-0072254-031 	#31 280-111956-G-6-A MSD 	MV-Main B_00021 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00045	MSD		voaSoiLL	5.000	g	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072254-032 	#32 280-111956-C-7-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-033 	#33 280-111879-F-1-B 		Client		voaSoilLL	5.000	g	1.000
280-0072254-034 	#34 280-111966-C-1-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-035 	#35 280-111966-C-2-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-036 	#36 280-111966-C-3-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-037 	#37 280-111966-D-4-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-038 	#38 280-111966-C-6-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-039 	#39 280-111966-C-7-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-040 	#40 280-111966-C-8-A 		Client		voaSoilLL	5.000	g	1.000
280-0072254-041 	#41 Samp 41 		Client		voaSoilLL	5.000	g	1.000



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 072318LL

Worklist Number: 72254

Instrument Name: VMS\_G2

Chrom Method: SO\_VMSG2\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_G2\20180723-72254.b

QC Batching: Enabled

Limit Group Batching: Enabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 423317	MSV - 624 Raw Batch: 423335
# 1 BFB	# 1 BFB	
# 2 CCV	# 2 CCV	
# 3 CCV	# 3 CCV	
# 4 LCS	# 4 LCS	
# 5 LCSD	# 5 LCSD	
# 6 MB	# 6 MB	
# 7 280-108595-A-4	# 7 280-108595-A-4	
# 8 280-108595-A-5-A	# 8 280-108595-A-5-A	
# 9 280-108595-A-6	# 9 280-108595-A-6	
#10 STD01	#10 STD01	#10 STD01
#11 STD02	#11 STD02	#11 STD02
#12 STD05	#12 STD05	#12 STD05
#13 STD10	#13 STD10	#13 STD10
#14 STD20	#14 STD20	#14 STD20
#15 STD50	#15 STD50	#15 STD50
#16 STD100	#16 STD100	#16 STD100
#17 STD200	#17 STD200	#17 STD200
#18 ICV	#18 ICV	
#19 CCV	#19 CCV	
#20 CCV	#20 CCV	
#21 LCS	#21 LCS	
#22 LCSD	#22 LCSD	
#23 MB	#23 MB	

QC Batch: 2	MSV - 8260B Water and Solid Raw Batch: 423345
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
#19 CCV	#19 CCV
#20 CCV	#20 CCV
#21 LCS	#21 LCS
#22 LCSD	#22 LCSD
#23 MB	#23 MB
#24 280-111966-F-5-A	#24 280-111966-F-5-A
#25 280-111966-F-9-A	#25 280-111966-F-9-A
#26 280-111956-C-3-A	#26 280-111956-C-3-A
#27 280-111956-C-4-A	#27 280-111956-C-4-A
#28 280-111956-C-5-A	#28 280-111956-C-5-A
#29 280-111956-E-6-A	#29 280-111956-E-6-A
#30 280-111956-F-6-A MS	#30 280-111956-F-6-A MS
#31 280-111956-G-6-A MSD	#31 280-111956-G-6-A MSD
#32 280-111956-C-7-A	#32 280-111956-C-7-A

QC Batch: 3	MSV - 8260B Water and Solid Raw Batch: 423346
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV



QC Batch: 3	MSV - 8260B Water and Solid Raw Batch: 423346
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
#19 CCV	#19 CCV
#20 CCV	#20 CCV
#21 LCS	#21 LCS
#22 LCSD	#22 LCSD
#23 MB	#23 MB
#33 280-111879-F-1-B	#33 280-111879-F-1-B
#34 280-111966-C-1-A	#34 280-111966-C-1-A
#35 280-111966-C-2-A	#35 280-111966-C-2-A
#36 280-111966-C-3-A	#36 280-111966-C-3-A
#37 280-111966-D-4-A	#37 280-111966-D-4-A
#38 280-111966-C-6-A	#38 280-111966-C-6-A
#39 280-111966-C-7-A	#39 280-111966-C-7-A
#40 280-111966-C-8-A	#40 280-111966-C-8-A
#41 Samp 41	#41 Samp 41



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 419807 Batch Start Date: 06/25/18 08:50 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026	MV-Supp A 00029
BFB 280-419807/1		8260B		1 uL	1 uL			1 uL	
STD010 280-419807/19 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD020 280-419807/20 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD050 280-419807/21 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-419807/22		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD30 280-419807/23 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD60 280-419807/24 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-419807/25		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
BFB 280-419807/1		8260B							
STD010 280-419807/19 IC		8260B							
STD020 280-419807/20 IC		8260B							
STD050 280-419807/21 IC		8260B							
ICIS 280-419807/22		8260B							
STD30 280-419807/23 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 419807 Batch Start Date: 06/25/18 08:50 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00020					
STD60 280-419807/24 IC		8260B							
ICV 280-419807/25		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 421403 Batch Start Date: 07/08/18 14:21 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00099	MV-Gas/Ket A 00075
STD03 280-421403/10 IC		8260B		20 mL	20 mL	0.15 uL	1 uL		0.15 uL
STD1 280-421403/11 IC		8260B		20 mL	20 mL	0.5 uL	1 uL		0.5 uL
STD2 280-421403/12 IC		8260B		20 mL	20 mL	1 uL	1 uL		1 uL
STD5 280-421403/13 IC		8260B		20 mL	20 mL	2.5 uL	1 uL		2.5 uL
STD10 280-421403/14 IC		8260B		20 mL	20 mL	5 uL	1 uL		5 uL
STD30 280-421403/15 IC		8260B		20 mL	20 mL	15 uL	1 uL		15 uL
STD60 280-421403/16 IC		8260B		20 mL	20 mL	30 uL	1 uL		30 uL
ICV 280-421403/17		8260B		20 mL	20 mL		1 uL		
STD1 280-421403/24 IC		8260B		20 mL	20 mL		1 uL	0.08 uL	
STD2 280-421403/25 IC		8260B		20 mL	20 mL		1 uL	0.16 uL	
STD5 280-421403/26 IC		8260B		20 mL	20 mL		1 uL	0.4 uL	
ICIS 280-421403/27		8260B		20 mL	20 mL		1 uL	0.8 uL	
STD30 280-421403/28 IC		8260B		20 mL	20 mL		1 uL	2.4 uL	
STD60 280-421403/29 IC		8260B		20 mL	20 mL		1 uL	4.8 uL	
ICV 280-421403/30		8260B		20 mL	20 mL		1 uL	0.8 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 3



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 421403 Batch Start Date: 07/08/18 14:21 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00021	MV-SS 2-Cleve 00045	MV-Supp A 00031	MV-Supp B 00021
STD03 280-421403/10 IC		8260B			0.15 uL				
STD1 280-421403/11 IC		8260B			0.5 uL				
STD2 280-421403/12 IC		8260B			1 uL				
STD5 280-421403/13 IC		8260B			2.5 uL				
STD10 280-421403/14 IC		8260B			5 uL				
STD30 280-421403/15 IC		8260B			15 uL				
STD60 280-421403/16 IC		8260B			30 uL				
ICV 280-421403/17		8260B		5 uL		5 uL	5 uL		
STD1 280-421403/24 IC		8260B						0.5 uL	
STD2 280-421403/25 IC		8260B						1 uL	
STD5 280-421403/26 IC		8260B						2.5 uL	
ICIS 280-421403/27		8260B						5 uL	
STD30 280-421403/28 IC		8260B						15 uL	
STD60 280-421403/29 IC		8260B						30 uL	
ICV 280-421403/30		8260B							5 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 3



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 421403 Batch Start Date: 07/08/18 14:21 Batch Analyst: Lines, Jeremy NBatch Method: 8260B Batch End Date: \_\_\_\_\_

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 3 of 3



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 422015 Batch Start Date: 07/12/18 13:44 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-422015/1		8260B		1 uL	1 uL				1 uL
STD003 280-422015/12 IC		8260B		20 mL	20 mL	0.15 uL	1 uL	0.024 uL	
STD010 280-422015/13 IC		8260B		20 mL	20 mL	0.5 uL	1 uL	0.08 uL	
STD020 280-422015/14 IC		8260B		20 mL	20 mL	1 uL	1 uL	0.16 uL	
STD050 280-422015/15 IC		8260B		20 mL	20 mL	2.5 uL	1 uL	0.4 uL	
STD10 280-422015/16 IC		8260B		20 mL	20 mL	5 uL	1 uL	0.8 uL	
STD30 280-422015/17 IC		8260B		20 mL	20 mL	15 uL	1 uL	2.4 uL	
STD60 280-422015/18 IC		8260B		20 mL	20 mL	30 uL	1 uL	4.8 uL	
ICV 280-422015/19		8260B		20 mL	20 mL		1 uL	0.84 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00070	MV-Gas/Ket B 00043	MV-Main A 00037	MV-SS 2-Cleve 00043		
BFB 280-422015/1		8260B							
STD003 280-422015/12 IC		8260B		0.15 uL		0.15 uL			
STD010 280-422015/13 IC		8260B		0.5 uL		0.5 uL			
STD020 280-422015/14 IC		8260B		1 uL		1 uL			
STD050 280-422015/15 IC		8260B		2.5 uL		2.5 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 422015 Batch Start Date: 07/12/18 13:44 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00070	MV-Gas/Ket B 00043	MV-Main A 00037	MV-SS 2-Cleve 00043		
STD10 280-422015/16 IC		8260B		5 uL		5 uL			
STD30 280-422015/17 IC		8260B		15 uL		15 uL			
STD60 280-422015/18 IC		8260B		30 uL		30 uL			
ICV 280-422015/19		8260B			5 uL		5 uL		

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 422281 Batch Start Date: 07/16/18 08:55 Batch Analyst: Seifert, Judy LBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00008	MV-BFB 00026	MV-Main B 00020	
BFB 280-422281/1		8260B		1 uL	1 uL		1 uL		
ICV 280-422281/12		8260B		20 mL	20 mL	1 uL		5 uL	

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 423129 Batch Start Date: 07/21/18 08:26 Batch Analyst: Ilczyszyn, Dennis PBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00014	MV-ARCH SS A 00099	MV-BFB 00026
BFB 280-423129/1		8260B		1 uL	1 uL				1 uL
CCV 280-423129/2		8260B		20 mL	20 mL	5 uL	1 uL	0.84 uL	
CCV 280-423129/3		8260B		20 mL	20 mL		1 uL		
LCS 280-423129/4		8260B		20 mL	20 mL		1 uL	0.84 uL	
MB 280-423129/6		8260B		20 mL	20 mL		1 uL	0.84 uL	
280-111956-A-1	AFDV-232	8260B	T	20 mL	20 mL		1 uL	0.84 uL	
280-111956-C-2	AFDV-230	8260B	T	20 mL	20 mL		1 uL	0.84 uL	
280-111956-C-2	AFDV-230	8260B	T	20 mL	20 mL		1 uL	0.84 uL	
280-112000-B-2 MS		8260B	T	20 mL	20 mL		1 uL	0.84 uL	
280-112000-B-2 MSD		8260B	T	20 mL	20 mL		1 uL	0.84 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00075	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00021	MV-SS 2-Cleve 00045	MV-Supp A 00031
BFB 280-423129/1		8260B							
CCV 280-423129/2		8260B		5 uL		5 uL			
CCV 280-423129/3		8260B							5 uL
LCS 280-423129/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-423129/6		8260B							
280-111956-A-1	AFDV-232	8260B	T						
280-111956-C-2	AFDV-230	8260B	T						
280-111956-C-2	AFDV-230	8260B	T						
280-112000-B-2 MS		8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-112000-B-2 MSD		8260B	T		2.5 uL		2.5 uL	2.5 uL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 423129 Batch Start Date: 07/21/18 08:26 Batch Analyst: Ilczyszyn, Dennis PBatch Method: 8260B Batch End Date: \_\_\_\_\_

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 423341 Batch Start Date: 07/23/18 22:00 Batch Analyst: Newcome, Robin SBatch Method: 5035 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	TareWeight	Vial&SampleWt	InitialAmount	FinalAmount		
LCS 280-423341/1		5035, 8260B		30 g	35 g	5 g	5 mL		
LCSD 280-423341/2		5035, 8260B		30 g	35 g	5 g	5 mL		
MB 280-423341/3		5035, 8260B		30 g	35 g	5 g	5 mL		
280-111956-C-3	AFDV-209	5035, 8260B	T	+030.117 g	35.416 g	5.299 g	5 mL		
280-111956-C-4	AFDV-210	5035, 8260B	T	+030.167 g	35.998 g	5.831 g	5 mL		
280-111956-C-5	AFDV-211	5035, 8260B	T	+029.676 g	36.381 g	6.705 g	5 mL		
280-111956-E-6	AFDV-212	5035, 8260B	T	+029.632 g	35.629 g	5.997 g	5 mL		
280-111956-F-6 MS	AFDV-212	5035, 8260B	T	+029.929 g	35.999 g	6.07 g	5 mL		
280-111956-G-6 MSD	AFDV-212	5035, 8260B	T	+029.688 g	36.135 g	6.447 g	5 mL		
280-111956-C-7	AFDV-213	5035, 8260B	T	+030.389 g	37.421 g	7.032 g	5 mL		

Batch Notes	
Balance ID	24850252
Blank Matrix ID	175085

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 423349 Batch Start Date: 07/24/18 05:35 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-2cleve+AVA 00036	MV-568718-D 00008	MV-ARCH SS A 00098	MV-BFB 00026
BFB 280-423349/1		8260B		1 uL	1 uL				1 uL
CCV 280-423349/2		8260B		20 mL	20 mL	5 uL	1 uL		
CCV 280-423349/3		8260B		20 mL	20 mL		1 uL	0.8 uL	
LCS 280-423349/4		8260B		20 mL	20 mL		1 uL	0.8 uL	
MB 280-423349/6		8260B		20 mL	20 mL		1 uL	0.8 uL	
280-111956-A-8	AFDV-223	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-111956-A-9	AFDV-224	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-112045-D-1 MS	B3J663	8260B	T	20 mL	20 mL		1 uL	0.8 uL	
280-112045-D-1 MSD	B3J663	8260B	T	20 mL	20 mL		1 uL	0.8 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Gas/Ket A 00075	MV-Gas/Ket B 00043	MV-Main A 00037	MV-Main B 00020	MV-SS 2-Cleve 00043	MV-Supp A 00031
BFB 280-423349/1		8260B							
CCV 280-423349/2		8260B		5 uL		5 uL			
CCV 280-423349/3		8260B							5 uL
LCS 280-423349/4		8260B			2.5 uL		2.5 uL	2.5 uL	
MB 280-423349/6		8260B							
280-111956-A-8	AFDV-223	8260B	T						
280-111956-A-9	AFDV-224	8260B	T						
280-112045-D-1 MS	B3J663	8260B	T		2.5 uL		2.5 uL	2.5 uL	
280-112045-D-1 MSD	B3J663	8260B	T		2.5 uL		2.5 uL	2.5 uL	

Batch Notes	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 423349 Batch Start Date: 07/24/18 05:35 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



# GENERAL CHEMISTRY



COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-111956-1

SDG No.: \_\_\_\_\_

Project: THAN Davenport, IA - Soil

Client Sample ID	Lab Sample ID
<u>AFDV-209</u>	<u>280-111956-3</u>
<u>AFDV-210</u>	<u>280-111956-4</u>
<u>AFDV-211</u>	<u>280-111956-5</u>
<u>AFDV-212</u>	<u>280-111956-6</u>
<u>AFDV-213</u>	<u>280-111956-7</u>

Comments:



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-111956-1

SDG Number: \_\_\_\_\_

Matrix: Solid

Instrument ID: NOEQUIP

Method: Moisture

RL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	RL (%)	
Percent Moisture		0.1	



Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-111956-1</u>
SDG No.: _____	
Instrument ID: <u>NOEQUIP</u>	Analysis Method: <u>Moisture</u>
Start Date: 07/16/2018 08:45	End Date: 07/16/2018 12:53

Page 266 of 271



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 07/16/2018 08:45 End Date: 07/16/2018 12:53

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				M o i s t																									
ZZZZZZ			11:23																										
ZZZZZZ			12:53																										
ZZZZZZ			12:53																										
ZZZZZZ			12:53																										
ZZZZZZ			12:53																										
ZZZZZZ			12:53																										
ZZZZZZ			12:53																										
ZZZZZZ			12:53																										
ZZZZZZ			12:53																										

Prep Types: \_\_\_\_\_  
T = Total/NA



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-111956-1

SDG No.: \_\_\_\_\_

Batch Number: 422293 Batch Start Date: 07/16/18 08:45 Batch Analyst: Sepanik, Hillary MBatch Method: Moisture Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
280-111905-A-8 DU		Moisture	T	22	1.30 g	16.82 g	12.36 g		
280-111956-A-3	AFDV-209	Moisture	T	24	1.31 g	16.17 g	15.59 g		
280-111956-A-4	AFDV-210	Moisture	T	25	1.27 g	15.52 g	12.57 g		
280-111956-A-5	AFDV-211	Moisture	T	26	1.29 g	16.05 g	13.06 g		
280-111956-A-6	AFDV-212	Moisture	T	27	1.30 g	17.05 g	13.50 g		
280-111956-A-7	AFDV-213	Moisture	T	28	1.27 g	16.42 g	12.90 g		

Batch Notes	
Balance ID	B439083239 No Unit
Date and Time Samples in Desiccator	07/17/2018 11:00
Date and Time Samples out of Desiccator	07/17/2018 12:06
Date samples were placed in the oven	07/16/2018
Oven Temp In	103 Degrees C
Time samples were place in the oven	13:23
Date samples were removed from oven	07/17/2018
Oven Temp Out	106 adjusted Degrees C
Time Samples were removed from oven	11:00
Oven ID	F
Thermometer ID	1354
Temperature - Start - Uncorrected	103 Celsius
Temperature - End - Uncorrected	106 adjusted Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Moisture

Page 1 of 1



# Shipping and Receiving Documents



SOIL/GW

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-111956-1

**Login Number: 111956**  
**List Number: 1**  
**Creator: Lujan, Jacob P**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	Headspace larger than 1/4" in one or more vials, one vial with accpt. headspace
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	



## ANALYTICAL REPORT

Job Number: 280-114284-1

Job Description: THAN Davenport, IA - Groundwater

For:  
CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201  
Attention: Ms. Shannon Olson



Approved for release.  
Jamie N Ide  
Project Manager I  
9/28/2018 4:47 PM

---

Jamie N Ide, Project Manager I  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0126  
jamie.ide@testamericainc.com  
09/28/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	4
Definitions . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Default Detection Limits . . . . .	9
QC Sample Results . . . . .	10
QC Association . . . . .	14
Chronicle . . . . .	15
Certification Summary . . . . .	17
Method Summary . . . . .	18
Sample Summary . . . . .	19
Manual Integration Summary . . . . .	20
Reagent Traceability . . . . .	31
Organic Sample Data . . . . .	32
GC VOA . . . . .	32
Method RSK-175 . . . . .	32
Method RSK-175 QC Summary . . . . .	33
Method RSK-175 Sample Data . . . . .	80
Standards Data . . . . .	94
Method RSK-175 ICAL Data . . . . .	94
Method RSK-175 CCAL Data . . . . .	100
Raw QC Data . . . . .	136
Method RSK-175 Blank Data . . . . .	136
Method RSK-175 LCS/LCSD Data . . . . .	139



# Table of Contents

Method RSK-175 MS/MSD Data . . . . .	145
Method RSK-175 Duplicate/Triplicate Data . . . . .	153
Method RSK-175 Run Logs . . . . .	156
Shipping and Receiving Documents . . . . .	163
Client Chain of Custody . . . . .	164
Sample Receipt Checklist . . . . .	165



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Qualifiers

### GC VOA

Qualifier	Qualifier Description
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F3	Duplicate RPD exceeds the control limit
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



**CASE NARRATIVE**  
**Client: CH2M Hill, Inc.**  
**Project: THAN Davenport, IA - Groundwater**  
**Report Number: 280-114284-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 9/13/2018 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.8° C.

Sample AFDV-416 (280-114284-8) is marked on the COC for 8260B VOCs analysis and RSK\_175 (MEE) analysis. Per the special instructions noted on the COC, the sample was logged for 8260B VOCs analysis only. Per client instruction on 9/14/18, the sample was a trip blank and does not need to be analyzed for 8260B VOCs because no other VOC samples were submitted for analysis.

**DISSOLVED GASES**

Samples AFDV-402 (280-114284-1), AFDV-403 (280-114284-2), AFDV-404 (280-114284-3), AFDV-407 (280-114284-4), AFDV-408 (280-114284-5), AFDV-409 (280-114284-6) and AFDV-410 (280-114284-7) were analyzed for dissolved gases in accordance with RSK\_175. The samples were analyzed on 09/20/2018, 09/25/2018 and 09/26/2018.

Analytes Acetylene/Ethane co-elute on one of the columns used for this analysis. As a result, there are no results reported for the %Difference in the concentration on the Form X.

Ethane failed the recovery criteria high for the MS of sample AFDV-404 (280-114284-3) in batch 280-430895. Ethane, Ethene and Methane failed the recovery criteria low for the MSD. Additionally, Ethane, Ethene and Methane exceeded the RPD limit. Refer to the QC report for details.

Ethane failed the recovery criteria low for the MS/MSD of sample 280-114531-2 in batch 280-431048. Methane failed the recovery criteria high. Refer to the QC report for details.

Ethane, Ethene and Methane exceeded the RPD limit for the duplicate of sample AFDV-403DU (280-114284-2). Refer to the QC report for details.

Samples AFDV-402 (280-114284-1)[3X], AFDV-403 (280-114284-2)[18X], AFDV-404 (280-114284-3)[18X], AFDV-407 (280-114284-4)[36X], AFDV-408 (280-114284-5)[36X], AFDV-409 (280-114284-6)[36X] and AFDV-410 (280-114284-7)[18X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Client Sample ID: AFDV-402

## Lab Sample ID: 280-114284-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane - DL	16000		15	1.9	ug/L	3		RSK-175	Total/NA

## Client Sample ID: AFDV-403

## Lab Sample ID: 280-114284-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	190		90	12	ug/L	18		RSK-175	Total/NA
Ethene	2700		90	7.2	ug/L	18		RSK-175	Total/NA
Ethane	27		5.0	0.57	ug/L	1		RSK-175	Total/NA

## Client Sample ID: AFDV-404

## Lab Sample ID: 280-114284-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	190		5.0	0.64	ug/L	1		RSK-175	Total/NA
Ethene	2600	F2 F1	90	7.2	ug/L	18		RSK-175	Total/NA
Ethane	30		5.0	0.57	ug/L	1		RSK-175	Total/NA

## Client Sample ID: AFDV-407

## Lab Sample ID: 280-114284-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	3000		5.0	0.64	ug/L	1		RSK-175	Total/NA
Ethene - DL	4400		180	14	ug/L	36		RSK-175	Total/NA
Ethane - DL	620		180	21	ug/L	36		RSK-175	Total/NA

## Client Sample ID: AFDV-408

## Lab Sample ID: 280-114284-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	4000		5.0	0.64	ug/L	1		RSK-175	Total/NA
Ethene - DL	6200		180	14	ug/L	36		RSK-175	Total/NA
Ethane - DL	860		180	21	ug/L	36		RSK-175	Total/NA

## Client Sample ID: AFDV-409

## Lab Sample ID: 280-114284-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	4000		5.0	0.64	ug/L	1		RSK-175	Total/NA
Ethene - DL	9900		180	14	ug/L	36		RSK-175	Total/NA
Ethane - DL	1600		180	21	ug/L	36		RSK-175	Total/NA

## Client Sample ID: AFDV-410

## Lab Sample ID: 280-114284-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	5500		5.0	0.64	ug/L	1		RSK-175	Total/NA
Ethene	3400		90	7.2	ug/L	18		RSK-175	Total/NA
Ethane	3800		90	10	ug/L	18		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Client Sample ID: AFDV-402

Date Collected: 09/12/18 16:55

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-1

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	ND		5.0	0.40	ug/L	—		09/20/18 19:54	1
Ethane	ND		5.0	0.57	ug/L	—		09/20/18 19:54	1

### Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	16000		15	1.9	ug/L	—		09/25/18 15:28	3

## Client Sample ID: AFDV-403

Date Collected: 09/12/18 16:00

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-2

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	190		90	12	ug/L	—		09/25/18 15:41	18
Ethene	2700		90	7.2	ug/L	—		09/25/18 15:41	18
Ethane	27		5.0	0.57	ug/L	—		09/20/18 20:07	1

## Client Sample ID: AFDV-404

Date Collected: 09/12/18 16:05

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-3

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	190		5.0	0.64	ug/L	—		09/20/18 20:20	1
Ethene	2600	F2 F1	90	7.2	ug/L	—		09/25/18 16:07	18
Ethane	30		5.0	0.57	ug/L	—		09/20/18 20:20	1

## Client Sample ID: AFDV-407

Date Collected: 09/12/18 14:05

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-4

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	3000		5.0	0.64	ug/L	—		09/20/18 20:34	1

### Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	4400		180	14	ug/L	—		09/25/18 16:47	36
Ethane	620		180	21	ug/L	—		09/25/18 16:47	36

## Client Sample ID: AFDV-408

Date Collected: 09/12/18 14:15

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-5

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4000		5.0	0.64	ug/L	—		09/20/18 20:47	1

### Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	6200		180	14	ug/L	—		09/25/18 17:00	36

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Client Sample ID: AFDV-408

Date Collected: 09/12/18 14:15

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-5

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC) - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	860		180	21	ug/L	—		09/25/18 17:00	36

## Client Sample ID: AFDV-409

Date Collected: 09/12/18 14:15

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-6

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	4000		5.0	0.64	ug/L	—		09/20/18 21:13	1

### Method: RSK-175 - Dissolved Gases (GC) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethene	9900		180	14	ug/L	—		09/26/18 13:03	36
Ethane	1600		180	21	ug/L	—		09/26/18 13:03	36

## Client Sample ID: AFDV-410

Date Collected: 09/12/18 14:15

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-7

Matrix: Water

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	5500		5.0	0.64	ug/L	—		09/20/18 21:26	1
Ethene	3400		90	7.2	ug/L	—		09/25/18 18:18	18
Ethane	3800		90	10	ug/L	—		09/25/18 18:18	18



## Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	RL	MDL	Units	Method
Ethane	5.0	0.57	ug/L	RSK-175
Ethene	5.0	0.40	ug/L	RSK-175
Methane	5.0	0.64	ug/L	RSK-175



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 280-430408/4

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	0.64	ug/L			09/20/18 17:56	1
Ethene	ND		5.0	0.40	ug/L			09/20/18 17:56	1
Ethane	ND		5.0	0.57	ug/L			09/20/18 17:56	1

Lab Sample ID: LCS 280-430408/2

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	73.0	70.2		ug/L		96	75 - 125
Ethene	128	142		ug/L		111	75 - 125
Ethane	137	144		ug/L		106	75 - 125

Lab Sample ID: LCSD 280-430408/3

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	73.0	64.6		ug/L		89	75 - 125	8	20
Ethene	128	129		ug/L		101	75 - 125	9	20
Ethane	137	132		ug/L		97	75 - 125	9	20

Lab Sample ID: 280-114216-G-5 MS

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	2.4	J	73.0	66.8		ug/L		88	52 - 145
Ethene	ND		128	129		ug/L		101	75 - 131
Ethane	ND		137	132		ug/L		97	75 - 125

Lab Sample ID: 280-114216-H-5 MSD

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	2.4	J	73.0	62.7		ug/L		83	52 - 145	6	20
Ethene	ND		128	120		ug/L		94	75 - 131	7	20
Ethane	ND		137	123		ug/L		90	75 - 125	8	20

Lab Sample ID: 280-114216-F-6 DU

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Methane	ND		ND		ug/L		NC	20
Ethene	ND		ND		ug/L		NC	20
Ethane	ND		ND		ug/L		NC	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: MB 280-430895/4

Matrix: Water

Analysis Batch: 430895

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	0.64	ug/L			09/25/18 10:32	1
Ethene	ND		5.0	0.40	ug/L			09/25/18 10:32	1
Ethane	ND		5.0	0.57	ug/L			09/25/18 10:32	1

Lab Sample ID: LCS 280-430895/2

Matrix: Water

Analysis Batch: 430895

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	73.0	64.7		ug/L		89	75 - 125
Ethene	128	124		ug/L		97	75 - 125
Ethane	137	132		ug/L		96	75 - 125

Lab Sample ID: LCSD 280-430895/3

Matrix: Water

Analysis Batch: 430895

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	73.0	68.9		ug/L		94	75 - 125	6	20
Ethene	128	134		ug/L		105	75 - 125	8	20
Ethane	137	143		ug/L		105	75 - 125	8	20

Lab Sample ID: 280-114284-3 MS

Matrix: Water

Analysis Batch: 430895

Client Sample ID: AFDV-404

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	180	F2 F1	1310	1560		ug/L		106	52 - 145
Ethene	2600	F2 F1	2300	5690	F1	ug/L		133	75 - 131
Ethane	25	J F2 F1	2460	2870		ug/L		115	75 - 125

Lab Sample ID: 280-114284-3 MSD

Matrix: Water

Analysis Batch: 430895

Client Sample ID: AFDV-404

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	180	F2 F1	1310	654	F2 F1	ug/L		36	52 - 145	82	20
Ethene	2600	F2 F1	2300	2580	F2 F1	ug/L		-2	75 - 131	75	20
Ethane	25	J F2 F1	2460	1220	F2 F1	ug/L		49	75 - 125	81	20

Lab Sample ID: 280-114284-7 MS

Matrix: Water

Analysis Batch: 430895

Client Sample ID: AFDV-410

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	5500		1310	7420	4	ug/L		143	52 - 145
Ethene	3400		2300	5840		ug/L		108	75 - 131
Ethane	3800		2460	6680		ug/L		117	75 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: 280-114284-7 MSD

Matrix: Water

Analysis Batch: 430895

Client Sample ID: AFDV-410

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	5500		1310	6770	4	ug/L		93	52 - 145	9	20
Ethene	3400		2300	5370		ug/L		88	75 - 131	8	20
Ethane	3800		2460	6070		ug/L		92	75 - 125	9	20

Lab Sample ID: 280-114284-2 DU

Matrix: Water

Analysis Batch: 430895

Client Sample ID: AFDV-403

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Methane	190		140	F5	ug/L		29	20
Ethene	2700		2060	F3	ug/L		25	20
Ethane	26	J	20.8	J F5	ug/L		23	20

Lab Sample ID: MB 280-431048/4

Matrix: Water

Analysis Batch: 431048

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	0.64	ug/L			09/26/18 10:19	1
Ethene	ND		5.0	0.40	ug/L			09/26/18 10:19	1
Ethane	ND		5.0	0.57	ug/L			09/26/18 10:19	1

Lab Sample ID: LCS 280-431048/2

Matrix: Water

Analysis Batch: 431048

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	73.0	70.8		ug/L		97	75 - 125
Ethene	128	140		ug/L		109	75 - 125
Ethane	137	150		ug/L		110	75 - 125

Lab Sample ID: LCSD 280-431048/3

Matrix: Water

Analysis Batch: 431048

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	73.0	74.9		ug/L		103	75 - 125	6	20
Ethene	128	145		ug/L		114	75 - 125	4	20
Ethane	137	159		ug/L		116	75 - 125	5	20

Lab Sample ID: 280-114531-G-2 MS

Matrix: Water

Analysis Batch: 431048

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	5100		73.0	6940	4	ug/L		2479	52 - 145		
Ethene	ND		128	98.1		ug/L		77	75 - 131		
Ethane	ND	F1	137	102	F1	ug/L		74	75 - 125		

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: 280-114531-G-2 MSD

Matrix: Water

Analysis Batch: 431048

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	5100		73.0	6880	4	ug/L		2403	52 - 145	1	20
Ethene	ND		128	96.9		ug/L		76	75 - 131	1	20
Ethane	ND	F1	137	98.3	F1	ug/L		72	75 - 125	4	20

Lab Sample ID: 280-114531-F-1 DU

Matrix: Water

Analysis Batch: 431048

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Methane	1700		1720		ug/L		0.8	20
Ethene	ND		ND		ug/L		NC	20
Ethane	ND		ND		ug/L		NC	20



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## GC VOA

### Analysis Batch: 430408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114284-1	AFDV-402	Total/NA	Water	RSK-175	
280-114284-2	AFDV-403	Total/NA	Water	RSK-175	
280-114284-3	AFDV-404	Total/NA	Water	RSK-175	
280-114284-4	AFDV-407	Total/NA	Water	RSK-175	
280-114284-5	AFDV-408	Total/NA	Water	RSK-175	
280-114284-6	AFDV-409	Total/NA	Water	RSK-175	
280-114284-7	AFDV-410	Total/NA	Water	RSK-175	
MB 280-430408/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-430408/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-430408/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-114216-G-5 MS	Matrix Spike	Total/NA	Water	RSK-175	
280-114216-H-5 MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	
280-114216-F-6 DU	Duplicate	Total/NA	Water	RSK-175	

### Analysis Batch: 430895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114284-1 - DL	AFDV-402	Total/NA	Water	RSK-175	
280-114284-2	AFDV-403	Total/NA	Water	RSK-175	
280-114284-3	AFDV-404	Total/NA	Water	RSK-175	
280-114284-4 - DL	AFDV-407	Total/NA	Water	RSK-175	
280-114284-5 - DL	AFDV-408	Total/NA	Water	RSK-175	
280-114284-7	AFDV-410	Total/NA	Water	RSK-175	
MB 280-430895/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-430895/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-430895/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-114284-3 MS	AFDV-404	Total/NA	Water	RSK-175	
280-114284-3 MSD	AFDV-404	Total/NA	Water	RSK-175	
280-114284-7 MS	AFDV-410	Total/NA	Water	RSK-175	
280-114284-7 MSD	AFDV-410	Total/NA	Water	RSK-175	
280-114284-2 DU	AFDV-403	Total/NA	Water	RSK-175	

### Analysis Batch: 431048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114284-6 - DL	AFDV-409	Total/NA	Water	RSK-175	
MB 280-431048/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-431048/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-431048/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-114531-G-2 MS	Matrix Spike	Total/NA	Water	RSK-175	
280-114531-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	
280-114531-F-1 DU	Duplicate	Total/NA	Water	RSK-175	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Client Sample ID: AFDV-402

Date Collected: 09/12/18 16:55

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 19:54	JLW	TAL DEN
Total/NA	Analysis	RSK-175	DL	3	18 mL	18 mL	430895	09/25/18 15:28	JLW	TAL DEN

## Client Sample ID: AFDV-403

Date Collected: 09/12/18 16:00

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 20:07	JLW	TAL DEN
Total/NA	Analysis	RSK-175		18	18 mL	18 mL	430895	09/25/18 15:41	JLW	TAL DEN

## Client Sample ID: AFDV-404

Date Collected: 09/12/18 16:05

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 20:20	JLW	TAL DEN
Total/NA	Analysis	RSK-175		18	18 mL	18 mL	430895	09/25/18 16:07	JLW	TAL DEN

## Client Sample ID: AFDV-407

Date Collected: 09/12/18 14:05

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 20:34	JLW	TAL DEN
Total/NA	Analysis	RSK-175	DL	36	18 mL	18 mL	430895	09/25/18 16:47	JLW	TAL DEN

## Client Sample ID: AFDV-408

Date Collected: 09/12/18 14:15

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 20:47	JLW	TAL DEN
Total/NA	Analysis	RSK-175	DL	36	18 mL	18 mL	430895	09/25/18 17:00	JLW	TAL DEN

## Client Sample ID: AFDV-409

Date Collected: 09/12/18 14:15

Date Received: 09/13/18 09:20

## Lab Sample ID: 280-114284-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 21:13	JLW	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

**Client Sample ID: AFDV-409**

**Date Collected: 09/12/18 14:15**

**Date Received: 09/13/18 09:20**

**Lab Sample ID: 280-114284-6**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175	DL	36	18 mL	18 mL	431048	09/26/18 13:03	JLW	TAL DEN

**Client Sample ID: AFDV-410**

**Date Collected: 09/12/18 14:15**

**Date Received: 09/13/18 09:20**

**Lab Sample ID: 280-114284-7**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 21:26	JLW	TAL DEN
Total/NA	Analysis	RSK-175		18	18 mL	18 mL	430895	09/25/18 18:18	JLW	TAL DEN

## Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

## Laboratory: TestAmerica Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E87667	06-30-19
Iowa	State Program	7	370	12-01-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte	
RSK-175		Water	Ethane	
RSK-175		Water	Ethene	
RSK-175		Water	Methane	
Oregon	NELAP	10	4025	01-08-19



## Method Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

---

Method	Method Description	Protocol	Laboratory
RSK-175	Dissolved Gases (GC)	RSK	TAL DEN

---

**Protocol References:**

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



## Sample Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114284-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-114284-1	AFDV-402	Water	09/12/18 16:55	09/13/18 09:20
280-114284-2	AFDV-403	Water	09/12/18 16:00	09/13/18 09:20
280-114284-3	AFDV-404	Water	09/12/18 16:05	09/13/18 09:20
280-114284-4	AFDV-407	Water	09/12/18 14:05	09/13/18 09:20
280-114284-5	AFDV-408	Water	09/12/18 14:15	09/13/18 09:20
280-114284-6	AFDV-409	Water	09/12/18 14:15	09/13/18 09:20
280-114284-7	AFDV-410	Water	09/12/18 14:15	09/13/18 09:20



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 423985Lab Sample ID: IC 280-423985/10 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/27/18 18:20 Lab File ID: 07271811.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.25	Peak assignment corrected	waldorfj	07/27/18 18:32

Lab Sample ID: IC 280-423985/10 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/27/18 18:20 Lab File ID: 07271811.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.62	Peak assignment corrected	waldorfj	07/27/18 18:32



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430408Lab Sample ID: MB 280-430408/4 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/20/18 17:56 Lab File ID: 09201804.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.72	Incomplete Integration	waldorfj	09/24/18 12:32

Lab Sample ID: 280-114216-G-5 MS Client Sample ID: \_\_\_\_\_Date Analyzed: 09/20/18 18:22 Lab File ID: 09201806.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.56	Incomplete Integration	waldorfj	09/24/18 12:38

Lab Sample ID: 280-114216-H-5 MSD Client Sample ID: \_\_\_\_\_Date Analyzed: 09/20/18 18:35 Lab File ID: 09201807.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.87	Incomplete Integration	waldorfj	09/24/18 12:38

Lab Sample ID: 280-114284-1 Client Sample ID: AFDV-402Date Analyzed: 09/20/18 19:54 Lab File ID: 09201813.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/24/18 12:39
Ethane		Invalid Compound ID	waldorfj	09/25/18 08:41

Lab Sample ID: 280-114284-1 Client Sample ID: AFDV-402Date Analyzed: 09/20/18 19:54 Lab File ID: 09201813.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.68	Peak assignment corrected	waldorfj	09/24/18 12:39
Ethane		Invalid Compound ID	waldorfj	09/24/18 12:39



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430408Lab Sample ID: 280-114284-2 Client Sample ID: AFDV-403Date Analyzed: 09/20/18 20:07 Lab File ID: 09201814.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/24/18 12:39
Ethene	1.77	Peak assignment corrected	waldorfj	09/24/18 12:42

Lab Sample ID: 280-114284-2 Client Sample ID: AFDV-403Date Analyzed: 09/20/18 20:07 Lab File ID: 09201814.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.69	Peak assignment corrected	waldorfj	09/24/18 12:39
Ethene	2.50	Peak assignment corrected	waldorfj	09/24/18 12:42

Lab Sample ID: 280-114284-3 Client Sample ID: AFDV-404Date Analyzed: 09/20/18 20:20 Lab File ID: 09201815.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/24/18 12:40
Ethane	1.52	Peak assignment corrected	waldorfj	09/24/18 12:41
Ethene	1.76	Peak assignment corrected	waldorfj	09/24/18 12:41

Lab Sample ID: 280-114284-3 Client Sample ID: AFDV-404Date Analyzed: 09/20/18 20:20 Lab File ID: 09201815.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.68	Peak assignment corrected	waldorfj	09/24/18 12:40
Ethene	2.50	Peak assignment corrected	waldorfj	09/24/18 12:41
Ethane	2.89	Invalid Compound ID	waldorfj	09/24/18 12:40



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430408Lab Sample ID: 280-114284-4 Client Sample ID: AFDV-407Date Analyzed: 09/20/18 20:34 Lab File ID: 09201816.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/24/18 12:40
Ethane	1.52	Peak assignment corrected	waldorfj	09/24/18 12:41
Ethene	1.77	Peak assignment corrected	waldorfj	09/24/18 12:41

Lab Sample ID: 280-114284-4 Client Sample ID: AFDV-407Date Analyzed: 09/20/18 20:34 Lab File ID: 09201816.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.69	Peak assignment corrected	waldorfj	09/24/18 12:40
Ethene	2.49	Peak assignment corrected	waldorfj	09/24/18 12:41
Ethane	2.88	Peak assignment corrected	waldorfj	09/24/18 12:41

Lab Sample ID: 280-114284-5 Client Sample ID: AFDV-408Date Analyzed: 09/20/18 20:47 Lab File ID: 09201817.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/24/18 12:42
Ethane	1.52	Peak assignment corrected	waldorfj	09/24/18 12:42
Ethene	1.76	Peak assignment corrected	waldorfj	09/24/18 12:42

Lab Sample ID: 280-114284-5 Client Sample ID: AFDV-408Date Analyzed: 09/20/18 20:47 Lab File ID: 09201817.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.69	Peak assignment corrected	waldorfj	09/24/18 12:42
Ethene	2.46	Peak assignment corrected	waldorfj	09/24/18 12:42
Ethane	2.88	Peak assignment corrected	waldorfj	09/24/18 12:42



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430408Lab Sample ID: CCV 280-430408/30 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/20/18 21:00 Lab File ID: 09201818.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.87	Incomplete Integration	waldorfj	09/21/18 08:10

Lab Sample ID: 280-114284-6 Client Sample ID: AFDV-409Date Analyzed: 09/20/18 21:13 Lab File ID: 09201819.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/21/18 08:11
Ethane	1.52	Peak assignment corrected	waldorfj	09/21/18 08:11
Ethene	1.76	Peak assignment corrected	waldorfj	09/21/18 08:11

Lab Sample ID: 280-114284-6 Client Sample ID: AFDV-409Date Analyzed: 09/20/18 21:13 Lab File ID: 09201819.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.68	Peak assignment corrected	waldorfj	09/24/18 12:43
Ethene	2.46	Peak assignment corrected	waldorfj	09/24/18 12:43
Ethane	2.87	Peak assignment corrected	waldorfj	09/21/18 08:11

Lab Sample ID: 280-114284-7 Client Sample ID: AFDV-410Date Analyzed: 09/20/18 21:26 Lab File ID: 09201820.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/24/18 12:43
Ethane	1.53	Peak assignment corrected	waldorfj	09/24/18 12:43
Ethene	1.81	Peak assignment corrected	waldorfj	09/24/18 12:43



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430408Lab Sample ID: 280-114284-7 Client Sample ID: AFDV-410Date Analyzed: 09/20/18 21:26 Lab File ID: 09201820.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.69	Peak assignment corrected	waldorfj	09/24/18 12:43
Ethene	2.50	Peak assignment corrected	waldorfj	09/24/18 12:43
Ethane	2.85	Peak assignment corrected	waldorfj	09/24/18 12:43



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430895Lab Sample ID: LCSD 280-430895/3 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/25/18 10:19 Lab File ID: 09251803.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.58	Incomplete Integration	waldorfj	09/25/18 10:40

Lab Sample ID: 280-114284-1 DL Client Sample ID: AFDV-402 DLDate Analyzed: 09/25/18 15:28 Lab File ID: 09251807.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane		Invalid Compound ID	waldorfj	09/26/18 10:07

Lab Sample ID: 280-114284-1 DL Client Sample ID: AFDV-402 DLDate Analyzed: 09/25/18 15:28 Lab File ID: 09251807.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane		Unspecified		

Lab Sample ID: 280-114284-2 Client Sample ID: AFDV-403Date Analyzed: 09/25/18 15:41 Lab File ID: 09251808.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	2.92	Incomplete Integration	waldorfj	09/26/18 10:08

Lab Sample ID: 280-114284-2 DU Client Sample ID: AFDV-403 DUDate Analyzed: 09/25/18 15:54 Lab File ID: 09251809.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.87	Incomplete Integration	waldorfj	09/25/18 16:07



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430895Lab Sample ID: 280-114284-3 Client Sample ID: AFDV-404Date Analyzed: 09/25/18 16:07 Lab File ID: 09251810.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	2.91	Incomplete Integration	waldorfj	09/25/18 16:20

Lab Sample ID: 280-114284-4 DL Client Sample ID: AFDV-407 DLDate Analyzed: 09/25/18 16:47 Lab File ID: 09251813.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.88	Incomplete Integration	waldorfj	09/26/18 10:09

Lab Sample ID: 280-114284-5 DL Client Sample ID: AFDV-408 DLDate Analyzed: 09/25/18 17:00 Lab File ID: 09251814.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.88	Split Peak	waldorfj	09/26/18 10:09

Lab Sample ID: 280-114284-7 Client Sample ID: AFDV-410Date Analyzed: 09/25/18 18:18 Lab File ID: 09251820.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.87	Incomplete Integration	waldorfj	09/26/18 09:03

Lab Sample ID: 280-114284-7 MS Client Sample ID: AFDV-410 MSDate Analyzed: 09/25/18 18:31 Lab File ID: 09251821.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.56	Incomplete Integration	waldorfj	09/26/18 09:11
Ethene	1.86	Incomplete Integration	waldorfj	09/26/18 09:11



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430895Lab Sample ID: 280-114284-7 MSD Client Sample ID: AFDV-410 MSDDate Analyzed: 09/25/18 18:44 Lab File ID: 09251822.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.28	Peak assignment corrected	waldorfj	09/26/18 09:11
Ethane	1.56	Incomplete Integration	waldorfj	09/26/18 09:11
Ethene	1.86	Incomplete Integration	waldorfj	09/26/18 09:11

Lab Sample ID: 280-114284-7 MSD Client Sample ID: AFDV-410 MSDDate Analyzed: 09/25/18 18:44 Lab File ID: 09251822.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.69	Peak assignment corrected	waldorfj	09/26/18 09:11

Lab Sample ID: CCV 280-430895/33 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/25/18 21:23 Lab File ID: 09251834.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.55	Incomplete Integration	waldorfj	09/26/18 09:14



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 431048Lab Sample ID: 280-114284-6 DL Client Sample ID: AFDV-409 DLDate Analyzed: 09/26/18 13:03 Lab File ID: 09261807.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	1.56	Incomplete Integration	waldorfj	09/26/18 13:55

Lab Sample ID: 280-114531-G-2 MS Client Sample ID: \_\_\_\_\_Date Analyzed: 09/26/18 14:37 Lab File ID: 09261814.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.26	Peak assignment corrected	waldorfj	09/26/18 14:58
Ethane	1.51	Peak assignment corrected	waldorfj	09/26/18 14:58
Ethene	1.72	Incomplete Integration	waldorfj	09/26/18 14:58

Lab Sample ID: 280-114531-G-2 MS Client Sample ID: \_\_\_\_\_Date Analyzed: 09/26/18 14:37 Lab File ID: 09261814.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.65	Peak assignment corrected	waldorfj	09/26/18 14:58
Ethene	2.49	Incomplete Integration	waldorfj	09/26/18 14:59
Ethane	2.87	Peak assignment corrected	waldorfj	09/26/18 14:58

Lab Sample ID: 280-114531-G-2 MSD Client Sample ID: \_\_\_\_\_Date Analyzed: 09/26/18 14:50 Lab File ID: 09261815.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.26	Peak assignment corrected	waldorfj	09/27/18 09:14
Ethane	1.51	Peak assignment corrected	waldorfj	09/27/18 09:14
Ethene	1.73	Peak assignment corrected	waldorfj	09/27/18 09:14



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 431048Lab Sample ID: 280-114531-G-2 MSD Client Sample ID: \_\_\_\_\_Date Analyzed: 09/26/18 14:50 Lab File ID: 09261815.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.65	Peak assignment corrected	waldorfj	09/27/18 09:14
Ethene	2.48	Peak assignment corrected	waldorfj	09/27/18 09:14
Ethane	2.87	Peak assignment corrected	waldorfj	09/27/18 09:14

Lab Sample ID: CCV 280-431048/30 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/26/18 15:30 Lab File ID: 09261818.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.27	Peak assignment corrected	waldorfj	09/27/18 08:23

Lab Sample ID: CCV 280-431048/30 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/26/18 15:30 Lab File ID: 09261818.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.68	Peak assignment corrected	waldorfj	09/27/18 08:23



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>RSK175methane_00006</b>	09/30/18		Supelco Analytical, Lot 403-102900		(Purchased Reagent)		Methane	650500 ug/L
<b>RSK7gasMathes_00020</b>	10/13/18		Matheson, Lot 9306622072		(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
<b>RSK7gasMathes_00021</b>	11/17/18		Matheson, Lot 9306622291		(Purchased Reagent)		Acetylene	10667 ug/L
							Butane	23807 ug/L
							Ethane	12317 ug/L
							Ethene	11490 ug/L
							isobutylene	22984 ug/L
							Methane	6570.3 ug/L
<b>RSK7gasMathes_00026</b>	04/03/20		Matheson, Lot 9308630516		(Purchased Reagent)		Propane	18064 ug/L
							Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L



# Method RSK-175

---

Dissolved Gases (GC) by Method  
RSK\_175



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09201802.D  
Lab ID: LCS 280-430408/2 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	73.0	70.2	96	75-125	
Ethene	128	142	111	75-125	
Ethane	137	144	106	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09251802.D  
Lab ID: LCS 280-430895/2 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	73.0	64.7	89	75-125	
Ethene	128	124	97	75-125	
Ethane	137	132	96	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09261802.D  
Lab ID: LCS 280-431048/2 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	73.0	70.8	97	75-125	
Ethene	128	140	109	75-125	
Ethane	137	150	110	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09201803.D  
 Lab ID: LCSD 280-430408/3 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	73.0	64.6	89	8	20	75-125	
Ethene	128	129	101	9	20	75-125	
Ethane	137	132	97	9	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09251803.D  
 Lab ID: LCSD 280-430895/3 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	73.0	68.9	94	6	20	75-125	
Ethene	128	134	105	8	20	75-125	
Ethane	137	143	105	8	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09261803.D  
 Lab ID: LCSD 280-431048/3 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	73.0	74.9	103	6	20	75-125	
Ethene	128	145	114	4	20	75-125	
Ethane	137	159	116	5	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09251811.D  
 Lab ID: 280-114284-3 MS Client ID: AFDV-404 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	1310	180	1560	106	52-145	
Ethene	2300	2600	5690	133	75-131	F1
Ethane	2460	25 J	2870	115	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09251821.D  
Lab ID: 280-114284-7 MS Client ID: AFDV-410 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	1310	5500	7420	143	52-145	4
Ethene	2300	3400	5840	108	75-131	
Ethane	2460	3800	6680	117	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09201806.D  
Lab ID: 280-114216-G-5 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	73.0	2.4 J	66.8	88	52-145	
Ethene	128	ND	129	101	75-131	
Ethane	137	ND	132	97	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09261814.D  
Lab ID: 280-114531-G-2 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	73.0	5100	6940	2479	52-145	4
Ethene	128	ND	98.1	77	75-131	
Ethane	137	ND	102	74	75-125	F1

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09251812.D  
 Lab ID: 280-114284-3 MSD Client ID: AFDV-404 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	1310	654	36	82	20	52-145	F2 F1
Ethene	2300	2580	-2	75	20	75-131	F2 F1
Ethane	2460	1220	49	81	20	75-125	F2 F1

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09251822.D  
 Lab ID: 280-114284-7 MSD Client ID: AFDV-410 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	1310	6770	93	9	20	52-145	4
Ethene	2300	5370	88	8	20	75-131	
Ethane	2460	6070	92	9	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09201807.D  
 Lab ID: 280-114216-H-5 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	73.0	62.7	83	6	20	52-145	
Ethene	128	120	94	7	20	75-131	
Ethane	137	123	90	8	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09261815.D  
 Lab ID: 280-114531-G-2 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	73.0	6880	2403	1	20	52-145	4
Ethene	128	96.9	76	1	20	75-131	
Ethane	137	98.3	72	4	20	75-125	F1

# Column to be used to flag recovery and RPD values



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 280-430408/4  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 09201804.D Lab File ID: (2) 09201804.D  
 Date Analyzed: (1) 09/20/2018 17:56 Date Analyzed: (2) 09/20/2018 17:56  
 Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
 GC Column: (1) HP-Plot Q ID: 0.53(mm) GC Column: (2) Rt-Alumina K ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1		DATE ANALYZED 2	
	LCS 280-430408/2	09/20/2018	17:30	09/20/2018	17:30
	LCSD 280-430408/3	09/20/2018	17:43	09/20/2018	17:43
	280-114216-G-5 MS	09/20/2018	18:22	09/20/2018	18:22
	280-114216-H-5 MSD	09/20/2018	18:35	09/20/2018	18:35
	280-114216-F-6 DU	09/20/2018	19:02	09/20/2018	19:02
AFDV-402	280-114284-1	09/20/2018	19:54	09/20/2018	19:54
AFDV-403	280-114284-2	09/20/2018	20:07	09/20/2018	20:07
AFDV-404	280-114284-3	09/20/2018	20:20	09/20/2018	20:20
AFDV-407	280-114284-4	09/20/2018	20:34	09/20/2018	20:34
AFDV-408	280-114284-5	09/20/2018	20:47	09/20/2018	20:47
AFDV-409	280-114284-6	09/20/2018	21:13	09/20/2018	21:13
AFDV-410	280-114284-7	09/20/2018	21:26	09/20/2018	21:26



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 280-430895/4  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 09251804.D Lab File ID: (2) 09251804.D  
 Date Analyzed: (1) 09/25/2018 10:32 Date Analyzed: (2) 09/25/2018 10:32  
 Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
 GC Column: (1) HP-Plot Q ID: 0.53(mm) GC Column: (2) Rt-Alumina K ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1		DATE ANALYZED 2	
	LCS 280-430895/2	09/25/2018	10:06	09/25/2018	10:06
	LCSD 280-430895/3	09/25/2018	10:19	09/25/2018	10:19
AFDV-402 DL	280-114284-1 DL	09/25/2018	15:28	09/25/2018	15:28
AFDV-403	280-114284-2	09/25/2018	15:41	09/25/2018	15:41
AFDV-403 DU	280-114284-2 DU	09/25/2018	15:54	09/25/2018	15:54
AFDV-404	280-114284-3	09/25/2018	16:07	09/25/2018	16:07
AFDV-404 MS	280-114284-3 MS	09/25/2018	16:20	09/25/2018	16:20
AFDV-404 MSD	280-114284-3 MSD	09/25/2018	16:34	09/25/2018	16:34
AFDV-407 DL	280-114284-4 DL	09/25/2018	16:47	09/25/2018	16:47
AFDV-408 DL	280-114284-5 DL	09/25/2018	17:00	09/25/2018	17:00
AFDV-410	280-114284-7	09/25/2018	18:18	09/25/2018	18:18
AFDV-410 MS	280-114284-7 MS	09/25/2018	18:31	09/25/2018	18:31
AFDV-410 MSD	280-114284-7 MSD	09/25/2018	18:44	09/25/2018	18:44



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 280-431048/4  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 09261804.D Lab File ID: (2) 09261804.D  
 Date Analyzed: (1) 09/26/2018 10:19 Date Analyzed: (2) 09/26/2018 10:19  
 Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
 GC Column: (1) HP-Plot Q ID: 0.53 (mm) GC Column: (2) Rt-Alumina K ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1		DATE ANALYZED 2	
	LCS 280-431048/2	09/26/2018	09:52	09/26/2018	09:52
	LCSD 280-431048/3	09/26/2018	10:06	09/26/2018	10:06
AFDV-409 DL	280-114284-6 DL	09/26/2018	13:03	09/26/2018	13:03
	280-114531-F-1 DU	09/26/2018	14:10	09/26/2018	14:10
	280-114531-G-2 MS	09/26/2018	14:37	09/26/2018	14:37
	280-114531-G-2 MSD	09/26/2018	14:50	09/26/2018	14:50



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-402 Lab Sample ID: 280-114284-1  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 19:54 Date Analyzed (2): 09/20/2018 19:54  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.69	1.77	14000		2.1
	2		1.27	1.25	1.33	14000		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-402 DL Lab Sample ID: 280-114284-1 DL

Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J

Date Analyzed (1): 09/25/2018 15:28 Date Analyzed (2): 09/25/2018 15:28

GC Column (1): HP-Plot Q ID: 0.53 (mm) GC Column (2): Rt-Alumina KC ID: 0.53 (mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.70	1.78	16000		1.4
	2		1.29	1.26	1.34	17000		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-403 Lab Sample ID: 280-114284-2  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 20:07 Date Analyzed (2): 09/20/2018 20:07  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.69	1.69	1.77	170		4.5
	2		1.27	1.25	1.33	180		
Ethene	1		2.50	2.49	2.59	2600		4.8
	2		1.77	1.85	1.95	2700		
Ethane	1		2.89	2.87	2.97	27		6.8
	2		1.53	1.53	1.63	26		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-403 Lab Sample ID: 280-114284-2  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 15:41 Date Analyzed (2): 09/25/2018 15:41  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.70	1.78	190		0.5
	2		1.28	1.26	1.34	190		
Ethene	1		2.54	2.50	2.60	2700		1.6
	2		1.88	1.86	1.96	2700		
Ethane	1		2.92	2.88	2.98	26		3.5
	2		1.57	1.53	1.63	27		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-403 DU Lab Sample ID: 280-114284-2 DU  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 15:54 Date Analyzed (2): 09/25/2018 15:54  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.70	1.78	140		0.3
	2		1.29	1.26	1.34	140		
Ethene	1		2.53	2.50	2.60	2060		0.3
	2		1.87	1.86	1.96	2050		
Ethane	1		2.91	2.88	2.98	20.8		0.3
	2		1.55	1.53	1.63	20.8		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-404 Lab Sample ID: 280-114284-3  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 20:20 Date Analyzed (2): 09/20/2018 20:20  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.69	1.77	190		4.9
	2		1.27	1.25	1.33	200		
Ethene	1		2.50	2.49	2.59	2500		5.0
	2		1.76	1.85	1.95	2600		
Ethane	1		2.89	2.87	2.97	30		5.3
	2		1.52	1.53	1.63	28		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-404 Lab Sample ID: 280-114284-3  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 16:07 Date Analyzed (2): 09/25/2018 16:07  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.70	1.78	180		0.8
	2		1.28	1.26	1.34	180		
Ethene	1		2.53	2.50	2.60	2600		1.8
	2		1.87	1.86	1.96	2700		
Ethane	1		2.91	2.88	2.98	25		3.5
	2		1.55	1.53	1.63	26		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-404 MS Lab Sample ID: 280-114284-3 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 16:20 Date Analyzed (2): 09/25/2018 16:20  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.70	1.78	1560		0.2
	2		1.28	1.26	1.34	1570		
Ethene	1		2.53	2.50	2.60	5690		2.2
	2		1.86	1.86	1.96	5810		
Ethane	1		2.90	2.88	2.98	2870		0.2
	2		1.55	1.53	1.63	2860		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-404 MSD Lab Sample ID: 280-114284-3 MSD  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 16:34 Date Analyzed (2): 09/25/2018 16:34  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.70	1.78	654		1.0
	2		1.29	1.26	1.34	648		
Ethene	1		2.52	2.50	2.60	2580		1.8
	2		1.87	1.86	1.96	2630		
Ethane	1		2.90	2.88	2.98	1220		0.1
	2		1.56	1.53	1.63	1220		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-407 Lab Sample ID: 280-114284-4  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 20:34 Date Analyzed (2): 09/20/2018 20:34  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.69	1.69	1.77	3000		3.4
	2		1.27	1.25	1.33	3100		
Ethene	1		2.49	2.49	2.59	6400		3.6
	2		1.77	1.85	1.95	6700		
Ethane	1		2.88	2.87	2.97	990		1.7
	2		1.52	1.53	1.63	1000		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-407 DL Lab Sample ID: 280-114284-4 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 16:47 Date Analyzed (2): 09/25/2018 16:47  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.70	1.78	1800		0.9
	2		1.29	1.26	1.34	1800		
Ethene	1		2.52	2.50	2.60	4400		0.5
	2		1.88	1.86	1.96	4400		
Ethane	1		2.90	2.88	2.98	620		0.2
	2		1.56	1.53	1.63	620		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-408 Lab Sample ID: 280-114284-5  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 20:47 Date Analyzed (2): 09/20/2018 20:47  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.69	1.69	1.77	4000		3.2
	2		1.27	1.25	1.33	4100		
Ethene	1		2.46	2.49	2.59	11000		3.9
	2		1.76	1.85	1.95	12000		
Ethane	1		2.88	2.87	2.97	1800		0.9
	2		1.52	1.53	1.63	1800		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-408 DL Lab Sample ID: 280-114284-5 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 17:00 Date Analyzed (2): 09/25/2018 17:00  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.70	1.78	1800		1.0
	2		1.29	1.26	1.34	1800		
Ethene	1		2.52	2.50	2.60	6200		0.9
	2		1.88	1.86	1.96	6100		
Ethane	1		2.90	2.88	2.98	860		0.1
	2		1.56	1.53	1.63	860		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-409 Lab Sample ID: 280-114284-6  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 21:13 Date Analyzed (2): 09/20/2018 21:13  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.69	1.77	4000		3.2
	2		1.27	1.25	1.33	4200		
Ethene	1		2.46	2.49	2.59	11000		3.9
	2		1.76	1.85	1.95	11000		
Ethane	1		2.87	2.87	2.97	1800		1.3
	2		1.52	1.53	1.63	1800		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-409 DL Lab Sample ID: 280-114284-6 DL  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/26/2018 13:03 Date Analyzed (2): 09/26/2018 13:03  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.68	1.76	3400		0.8
	2		1.28	1.25	1.33	3400		
Ethene	1		2.52	2.48	2.58	9900		1.0
	2		1.87	1.85	1.95	10000		
Ethane	1		2.89	2.86	2.96	1600		2.3
	2		1.56	1.52	1.62	1600		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-410 Lab Sample ID: 280-114284-7  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 21:26 Date Analyzed (2): 09/20/2018 21:26  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.69	1.69	1.77	5500		2.1
	2		1.27	1.25	1.33	5600		
Ethene	1		2.50	2.49	2.59	3200		2.2
	2		1.81	1.85	1.95	3200		
Ethane	1		2.85	2.87	2.97	3700		1.2
	2		1.53	1.53	1.63	3700		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-410 Lab Sample ID: 280-114284-7  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 18:18 Date Analyzed (2): 09/25/2018 18:18  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.70	1.78	5500		0.1
	2		1.28	1.26	1.34	5500		
Ethene	1		2.52	2.50	2.60	3400		0.6
	2		1.87	1.86	1.96	3300		
Ethane	1		2.90	2.88	2.98	3800		0.3
	2		1.55	1.53	1.63	3800		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-410 MS Lab Sample ID: 280-114284-7 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 18:31 Date Analyzed (2): 09/25/2018 18:31  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.70	1.78	7420		0.1
	2		1.28	1.26	1.34	7410		
Ethene	1		2.52	2.50	2.60	5840		0.7
	2		1.86	1.86	1.96	5800		
Ethane	1		2.89	2.88	2.98	6680		2.3
	2		1.56	1.53	1.63	6520		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-410 MSD Lab Sample ID: 280-114284-7 MSD  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 18:44 Date Analyzed (2): 09/25/2018 18:44  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.69	1.70	1.78	6770		0.2
	2		1.28	1.26	1.34	6760		
Ethene	1		2.52	2.50	2.60	5370		3.4
	2		1.86	1.86	1.96	5190		
Ethane	1		2.89	2.88	2.98	6070		2.3
	2		1.56	1.53	1.63	5940		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-430408/2  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 17:30 Date Analyzed (2): 09/20/2018 17:30  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.72	1.69	1.77	70.2		0.3
	2		1.29	1.25	1.33	70.0		
Ethene	1		2.54	2.49	2.59	142		1.8
	2		1.89	1.85	1.95	144		
Ethane	1		2.92	2.87	2.97	144		0.2
	2		1.57	1.53	1.63	144		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-430408/3  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 17:43 Date Analyzed (2): 09/20/2018 17:43  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.72	1.69	1.77	64.6		0.2
	2		1.29	1.25	1.33	64.5		
Ethene	1		2.54	2.49	2.59	129		1.8
	2		1.89	1.85	1.95	131		
Ethane	1		2.92	2.87	2.97	132		0.0
	2		1.57	1.53	1.63	132		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114216-G-5 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 18:22 Date Analyzed (2): 09/20/2018 18:22  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.69	1.77	66.8		0.1
	2		1.28	1.25	1.33	66.9		
Ethene	1		2.52	2.49	2.59	129		2.2
	2		1.87	1.85	1.95	131		
Ethane	1		2.90	2.87	2.97	132		3.2
	2		1.56	1.53	1.63	128		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114216-H-5 MSD

Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J

Date Analyzed (1): 09/20/2018 18:35 Date Analyzed (2): 09/20/2018 18:35

GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.69	1.69	1.77	62.7		0.1
	2		1.28	1.25	1.33	62.8		
Ethene	1		2.52	2.49	2.59	120		1.2
	2		1.87	1.85	1.95	119		
Ethane	1		2.90	2.87	2.97	123		0.3
	2		1.56	1.53	1.63	123		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-430895/2  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 10:06 Date Analyzed (2): 09/25/2018 10:06  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.73	1.70	1.78	64.7		0.3
	2		1.30	1.26	1.34	64.5		
Ethene	1		2.56	2.50	2.60	124		1.8
	2		1.89	1.86	1.96	126		
Ethane	1		2.94	2.88	2.98	132		0.2
	2		1.58	1.53	1.63	132		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-430895/3  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/25/2018 10:19 Date Analyzed (2): 09/25/2018 10:19  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.72	1.70	1.78	68.9		0.5
	2		1.29	1.26	1.34	68.5		
Ethene	1		2.55	2.50	2.60	134		1.5
	2		1.89	1.86	1.96	136		
Ethane	1		2.93	2.88	2.98	143		3.2
	2		1.58	1.53	1.63	139		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-431048/2  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/26/2018 09:52 Date Analyzed (2): 09/26/2018 09:52  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.68	1.76	70.8		0.8
	2		1.29	1.25	1.33	70.2		
Ethene	1		2.53	2.48	2.58	140		1.2
	2		1.89	1.85	1.95	141		
Ethane	1		2.91	2.86	2.96	150		0.7
	2		1.56	1.52	1.62	149		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-431048/3  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/26/2018 10:06 Date Analyzed (2): 09/26/2018 10:06  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.71	1.68	1.76	74.9		0.8
	2		1.28	1.25	1.33	74.3		
Ethene	1		2.53	2.48	2.58	145		1.3
	2		1.89	1.85	1.95	147		
Ethane	1		2.91	2.86	2.96	159		0.7
	2		1.56	1.52	1.62	158		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114531-F-1 DU  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/26/2018 14:10 Date Analyzed (2): 09/26/2018 14:10  
 GC Column (1): HP-Plot Q ID: 0.53 (mm) GC Column (2): Rt-Alumina KC ID: 0.53 (mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.69	1.68	1.76	1720		0.6
	2		1.26	1.25	1.33	1730		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114531-G-2 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/26/2018 14:37 Date Analyzed (2): 09/26/2018 14:37  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.65	1.68	1.76	6940		7.1
	2		1.26	1.25	1.33	7450		
Ethene	1		2.49	2.48	2.58	98.1		10.8
	2		1.72	1.85	1.95	109		
Ethane	1		2.87	2.86	2.96	102		6.3
	2		1.51	1.52	1.62	108		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114531-G-2 MSD  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/26/2018 14:50 Date Analyzed (2): 09/26/2018 14:50  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.65	1.68	1.76	6880		7.0
	2		1.26	1.25	1.33	7380		
Ethene	1		2.48	2.48	2.58	96.9		8.1
	2		1.73	1.85	1.95	105		
Ethane	1		2.87	2.86	2.96	98.3		6.2
	2		1.51	1.52	1.62	105		



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-402 Lab Sample ID: 280-114284-1  
Matrix: Water Lab File ID: 09201813.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:55  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 19:54  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-402 DL Lab Sample ID: 280-114284-1 DL  
Matrix: Water Lab File ID: 09251807.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:55  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 15:28  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 3  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	16000		15	1.9



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-403 Lab Sample ID: 280-114284-2  
Matrix: Water Lab File ID: 09201814.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 20:07  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	27		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-403 Lab Sample ID: 280-114284-2  
Matrix: Water Lab File ID: 09251808.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 15:41  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	190		90	12
74-85-1	Ethene	2700		90	7.2



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-404 Lab Sample ID: 280-114284-3  
Matrix: Water Lab File ID: 09201815.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:05  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 20:20  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	190		5.0	0.64
74-84-0	Ethane	30		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-404 Lab Sample ID: 280-114284-3  
Matrix: Water Lab File ID: 09251810.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:05  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 16:07  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-85-1	Ethene	2600	F2 F1	90	7.2



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-407 Lab Sample ID: 280-114284-4  
Matrix: Water Lab File ID: 09201816.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:05  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 20:34  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	3000		5.0	0.64



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-407 DL Lab Sample ID: 280-114284-4 DL  
Matrix: Water Lab File ID: 09251813.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:05  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 16:47  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 36  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-85-1	Ethene	4400		180	14
74-84-0	Ethane	620		180	21



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-408 Lab Sample ID: 280-114284-5  
Matrix: Water Lab File ID: 09201817.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 20:47  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	4000		5.0	0.64



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-408 DL Lab Sample ID: 280-114284-5 DL  
Matrix: Water Lab File ID: 09251814.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 17:00  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 36  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-85-1	Ethene	6200		180	14
74-84-0	Ethane	860		180	21



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-409 Lab Sample ID: 280-114284-6  
Matrix: Water Lab File ID: 09201819.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 21:13  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	4000		5.0	0.64



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-409 DL Lab Sample ID: 280-114284-6 DL  
Matrix: Water Lab File ID: 09261807.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/26/2018 13:03  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 36  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 431048 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-85-1	Ethene	9900		180	14
74-84-0	Ethane	1600		180	21



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-410 Lab Sample ID: 280-114284-7  
Matrix: Water Lab File ID: 09201820.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 21:26  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	5500		5.0	0.64



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-410 Lab Sample ID: 280-114284-7  
Matrix: Water Lab File ID: 09251820.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 18:18  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-85-1	Ethene	3400		90	7.2
74-84-0	Ethane	3800		90	10



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33212

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9	LVL 10	RT WINDOW	AVG RT
Methane		1.279	1.277	1.275	1.270	1.268	1.266	1.270	1.270	+++++	1.230 - 1.310	1.272
Ethane	1.560	1.573	1.568	1.571	1.567	1.568	1.566				1.517 - 1.617	1.568
Ethene	1.908	1.913	1.920	1.916	1.913	1.905	1.907				1.863 - 1.963	1.912
Propane	2.737	2.735	2.729	2.726	2.717	2.709	2.696				2.657 - 2.777	2.721
Acetylene	4.193	4.191	4.188	4.181	4.169	4.159	4.147				4.089 - 4.249	4.175
Butane	4.492	4.490	4.486	4.480	4.466	4.452	4.436				4.386 - 4.546	4.472
isobutylene	5.401	5.400	5.396	5.392	5.381	5.372	5.357				5.301 - 5.461	5.386



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114284-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33212

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6 LVL 10	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	132701 129896	173312 135607 +++++	150740 129443	137929 170568	Ave		145024.389				12.4		20.0			
Ethane	107908 127620	122815 130469	122930 124928	130529	Ave		123885.767				6.3		20.0			
Ethene	77774 105204	100826 106580	102107 103277	105878	Ave		100235.100				10.1		20.0			
Propane	118353 134289	129005 139215	128295 133298	137405	Ave		131408.481				5.3		20.0			
Acetylene	32017 37545	36103 37520	37072 37508	36764	Ave		36361.2855				5.5		20.0			
Butane	130814 136316	130393 143754	129378 137973	138840	Ave		135352.423				3.9		20.0			
isobutylene	88971 92198	87256 95423	88616 93077	91829	Ave		91052.9114				3.2		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114284-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33212

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
Methane	Ave	158154 19799464	275113 37798983	2013850 308207757	9687627 938860173	+++++	146	0.913 292	1.83 1807	14.6 7228	73.0 +++++
Ethane	Ave	92299 35710920	210099 68388169	420593	3572729	17465561	0.855 274	1.71 547	3.42	27.4	137
Ethene	Ave	62057 27213526	160901 52739976	325891	2703420	13431071	0.798 255	1.60 511	3.19	25.5	128
Propane	Ave	148467 55884118	323658 107017224	643757	5515735	26953316	1.25 401	2.51 803	5.02	40.1	201
Acetylene	Ave	23717 8893827	53488 17782088	109846	871478	4449917	0.741 237	1.48 474	2.96	23.7	119
Butane	Ave	216270 76052237	431148 145987563	855583	7345233	36058532	1.65 529	3.31 1058	6.61	52.9	265
isobutylene	Ave	142008 48738029	278539 95079391	565765	4690212	23545309	1.60 511	3.19 1022	6.38	51.1	255

Curve Type Legend:

Ave = Average



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9	LVL 10	RT WINDOW	AVG RT
Methane		1.696	1.687	1.695	1.700	1.689	1.691	1.692	1.687	+++++	1.660 - 1.740	1.692
Ethene	2.517	2.518	2.515	2.512	2.508	2.505	2.503				2.458 - 2.558	2.511
Acetylene	2.660	2.660	2.657	2.653	2.649	2.649	2.646				2.569 - 2.729	2.653
Ethane	2.899	2.899	2.892	2.890	2.884	2.882	2.878				2.834 - 2.934	2.889
Propane	4.697	4.696	4.692	4.692	4.686	4.682	4.675				4.626 - 4.746	4.689
isobutylene	6.006	6.004	6.001	6.001	5.996	5.990	5.982				5.916 - 6.076	5.997
Butane	6.158	6.157	6.155	6.152	6.147	6.140	6.129				6.067 - 6.227	6.148



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114284-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6 LVL 10	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	113882 111673	144705 116496 +++++	126651 111149	118460 146491	Ave		123688.244				11.6		20.0			
Ethene	75879 89688	85786 90805	86870 88006	90294	Ave		86761.1514				5.9		20.0			
Acetylene	28032 32945	30844 32996	31622 33002	32104	Ave		31649.1625				5.7		20.0			
Ethane	91370 109163	103886 112143	103517 107716	111228	Ave		105574.762				6.7		20.0			
Propane	100272 114486	109952 118547	109140 113705	117107	Ave		111886.975				5.5		20.0			
isobutylene	76057 77606	74039 80207	75001 78189	77618	Ave		76959.4153				2.7		20.0			
Butane	110062 115969	110185 122237	109685 117308	118397	Ave		114834.655				4.3		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114284-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
Methane	Ave	17009123	132049 32457009	231149 264700518	1729596 807148110	8313745 +++++	146	0.913 292	1.83 1807	14.6 7228	73.0 +++++
Ethene	Ave	60545 23185632	136900 44941752	277260	2305510	11450145	0.798 255	1.60 511	3.19	25.5	128
Acetylene	Ave	20765 7821405	45696 15646052	93697	761001	3904723	0.741 237	1.48 474	2.96	23.7	119
Ethane	Ave	78153 30694702	177718 58966066	354173	3044430	14939591	0.855 274	1.71 547	3.42	27.4	137
Propane	Ave	125786 47587505	275857 91287063	547641	4700926	22978605	1.25 401	2.51 803	5.02	40.1	201
isobutylene	Ave	121395 40966010	236349 79870985	478838	3964374	19818810	1.60 511	3.19 1022	6.38	51.1	255
Butane	Ave	181961 64668909	364330 124122072	725351	6263753	30676289	1.65 529	3.31 1058	6.61	52.9	265

Curve Type Legend:

Ave = Average



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 07271814.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	126499		127	146	-12.8	20.0
Ethane	Ave	123886	121986		270	274	-1.5	20.0
Ethene	Ave	100235	101098		258	255	0.9	20.0
Propane	Ave	131408	129767		396	401	-1.2	20.0
Acetylene	Ave	36361	36957		241	237	1.6	20.0
Butane	Ave	135352	133642		522	529	-1.3	20.0
isobutylene	Ave	91053	90306		507	511	-0.8	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 07271814.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.27	1.23	1.31
Ethane	1.57	1.52	1.62
Ethene	1.91	1.86	1.96
Propane	2.71	2.66	2.78
Acetylene	4.16	4.09	4.25
Butane	4.45	4.39	4.55
isobutylene	5.37	5.30	5.46



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 07271814.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	108850		128	146	-12.0	20.0
Ethene	Ave	86761	86202		254	255	-0.6	20.0
Acetylene	Ave	31649	32463		243	237	2.6	20.0
Ethane	Ave	105575	105007		272	274	-0.5	20.0
Propane	Ave	111887	110733		397	401	-1.0	20.0
isobutylene	Ave	76959	75982		504	511	-1.3	20.0
Butane	Ave	114835	113753		524	529	-0.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 07271814.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.70	1.66	1.74
Ethene	2.50	2.46	2.56
Acetylene	2.65	2.57	2.73
Ethane	2.88	2.83	2.93
Propane	4.68	4.63	4.75
isobutylene	5.99	5.92	6.08
Butane	6.14	6.07	6.23



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	128113		64.5	73.0	-11.7	20.0
Ethane	Ave	123886	121987		135	137	-1.5	20.0
Ethene	Ave	100235	107097		136	128	6.8	20.0
Propane	Ave	131408	123501		189	201	-6.0	20.0
Acetylene	Ave	36361	34736		113	119	-4.5	20.0
Butane	Ave	135352	115457		226	265	-14.7	20.0
isobutylene	Ave	91053	88903		249	255	-2.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.29	1.25	1.33
Ethane	1.58	1.53	1.63
Ethene	1.90	1.85	1.95
Propane	2.64	2.58	2.70
Acetylene	4.06	3.98	4.14
Butane	4.38	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	109428		64.6	73.0	-11.5	20.0
Ethene	Ave	86761	90860		134	128	4.7	20.0
Acetylene	Ave	31649	30494		114	119	-3.6	20.0
Ethane	Ave	105575	103884		135	137	-1.6	20.0
Propane	Ave	111887	104532		188	201	-6.6	20.0
isobutylene	Ave	76959	74516		247	255	-3.2	20.0
Butane	Ave	114835	97897		226	265	-14.7	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.73	1.69	1.77
Ethene	2.54	2.49	2.59
Acetylene	2.68	2.60	2.76
Ethane	2.92	2.87	2.97
Propane	4.70	4.64	4.76
isobutylene	6.01	5.93	6.09
Butane	6.16	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201818.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	131274		66.1	73.0	-9.5	20.0
Ethane	Ave	123886	122255		135	137	-1.3	20.0
Ethene	Ave	100235	98310		125	128	-1.9	20.0
Propane	Ave	131408	122110		187	201	-7.1	20.0
Acetylene	Ave	36361	33445		109	119	-8.0	20.0
Butane	Ave	135352	109919		215	265	-18.8	20.0
isobutylene	Ave	91053	78393		220	255	-13.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201818.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.27	1.25	1.33
Ethane	1.54	1.53	1.63
Ethene	1.87	1.85	1.95
Propane	2.61	2.58	2.70
Acetylene	4.06	3.98	4.14
Butane	4.37	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201818.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	113265		66.9	73.0	-8.4	20.0
Ethene	Ave	86761	87342		129	128	0.7	20.0
Acetylene	Ave	31649	29539		111	119	-6.7	20.0
Ethane	Ave	105575	105097		136	137	-0.5	20.0
Propane	Ave	111887	103849		186	201	-7.2	20.0
isobutylene	Ave	76959	72080		239	255	-6.3	20.0
Butane	Ave	114835	98003		226	265	-14.7	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201818.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.70	1.69	1.77
Ethene	2.51	2.49	2.59
Acetylene	2.65	2.60	2.76
Ethane	2.89	2.87	2.97
Propane	4.69	4.64	4.76
isobutylene	6.00	5.93	6.09
Butane	6.15	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201828.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	118103		59.5	73.0	-18.6	20.0
Ethane	Ave	123886	109920		121	137	-11.3	20.0
Ethene	Ave	100235	92080		117	128	-8.1	20.0
Propane	Ave	131408	109624		167	201	-16.6	20.0
Acetylene	Ave	36361	32758		107	119	-9.9	20.0
Butane	Ave	135352	97579		191	265	-27.9*	20.0
isobutylene	Ave	91053	69927		196	255	-23.2*	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201828.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.28	1.25	1.33
Ethane	1.56	1.53	1.63
Ethene	1.87	1.85	1.95
Propane	2.62	2.58	2.70
Acetylene	4.07	3.98	4.14
Butane	4.37	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201828.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	101664		60.0	73.0	-17.8	20.0
Ethene	Ave	86761	78791		116	128	-9.2	20.0
Acetylene	Ave	31649	28828		108	119	-8.9	20.0
Ethane	Ave	105575	94255		122	137	-10.7	20.0
Propane	Ave	111887	93543		168	201	-16.4	20.0
isobutylene	Ave	76959	58556		194	255	-23.9*	20.0
Butane	Ave	114835	82528		190	265	-28.1*	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201828.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.70	1.69	1.77
Ethene	2.52	2.49	2.59
Acetylene	2.66	2.60	2.76
Ethane	2.89	2.87	2.97
Propane	4.69	4.64	4.76
isobutylene	6.00	5.93	6.09
Butane	6.15	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-430895/1 Calibration Date: 09/25/2018 09:53  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09251801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	127158		64.0	73.0	-12.3	20.0
Ethane	Ave	123886	119840		132	137	-3.3	20.0
Ethene	Ave	100235	99070		126	128	-1.2	20.0
Propane	Ave	131408	124976		191	201	-4.9	20.0
Acetylene	Ave	36361	36013		117	119	-1.0	20.0
Butane	Ave	135352	124919		244	265	-7.7	20.0
isobutylene	Ave	91053	84937		238	255	-6.7	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-430895/1 Calibration Date: 09/25/2018 09:53  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09251801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.30	1.26	1.34
Ethane	1.58	1.53	1.63
Ethene	1.91	1.86	1.96
Propane	2.65	2.59	2.71
Acetylene	4.05	3.97	4.13
Butane	4.37	4.29	4.45
isobutylene	5.29	5.21	5.37



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-430895/1 Calibration Date: 09/25/2018 09:53  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09251801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	108758		64.2	73.0	-12.1	20.0
Ethene	Ave	86761	84322		124	128	-2.8	20.0
Acetylene	Ave	31649	31423		118	119	-0.7	20.0
Ethane	Ave	105575	102173		132	137	-3.2	20.0
Propane	Ave	111887	106022		190	201	-5.2	20.0
isobutylene	Ave	76959	71403		237	255	-7.2	20.0
Butane	Ave	114835	106043		244	265	-7.7	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-430895/1 Calibration Date: 09/25/2018 09:53  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09251801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.74	1.70	1.78
Ethene	2.55	2.50	2.60
Acetylene	2.70	2.62	2.78
Ethane	2.93	2.88	2.98
Propane	4.71	4.65	4.77
isobutylene	6.01	5.93	6.09
Butane	6.16	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430895/18 Calibration Date: 09/25/2018 18:05  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09251819.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	129101		65.0	73.0	-11.0	20.0
Ethane	Ave	123886	122701		136	137	-1.0	20.0
Ethene	Ave	100235	101394		129	128	1.2	20.0
Propane	Ave	131408	125944		192	201	-4.2	20.0
Acetylene	Ave	36361	34366		112	119	-5.5	20.0
Butane	Ave	135352	117541		230	265	-13.2	20.0
isobutylene	Ave	91053	81632		229	255	-10.3	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430895/18 Calibration Date: 09/25/2018 18:05  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09251819.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.28	1.26	1.34
Ethane	1.54	1.53	1.63
Ethene	1.87	1.86	1.96
Propane	2.62	2.59	2.71
Acetylene	4.06	3.97	4.13
Butane	4.37	4.29	4.45
isobutylene	5.30	5.21	5.37



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430895/18 Calibration Date: 09/25/2018 18:05  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09251819.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	110673		65.3	73.0	-10.5	20.0
Ethene	Ave	86761	86500		127	128	-0.3	20.0
Acetylene	Ave	31649	30002		112	119	-5.2	20.0
Ethane	Ave	105575	104975		136	137	-0.6	20.0
Propane	Ave	111887	107187		192	201	-4.2	20.0
isobutylene	Ave	76959	68987		229	255	-10.4	20.0
Butane	Ave	114835	101209		233	265	-11.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430895/18 Calibration Date: 09/25/2018 18:05  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09251819.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.71	1.70	1.78
Ethene	2.52	2.50	2.60
Acetylene	2.67	2.62	2.78
Ethane	2.90	2.88	2.98
Propane	4.69	4.65	4.77
isobutylene	6.00	5.93	6.09
Butane	6.15	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430895/33 Calibration Date: 09/25/2018 21:23  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09251834.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	130963		65.9	73.0	-9.7	20.0
Ethane	Ave	123886	121356		134	137	-2.0	20.0
Ethene	Ave	100235	101069		129	128	0.8	20.0
Propane	Ave	131408	127381		195	201	-3.1	20.0
Acetylene	Ave	36361	35193		115	119	-3.2	20.0
Butane	Ave	135352	118903		232	265	-12.2	20.0
isobutylene	Ave	91053	80217		225	255	-11.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430895/33 Calibration Date: 09/25/2018 21:23  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09251834.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.27	1.26	1.34
Ethane	1.55	1.53	1.63
Ethene	1.87	1.86	1.96
Propane	2.61	2.59	2.71
Acetylene	4.06	3.97	4.13
Butane	4.37	4.29	4.45
isobutylene	5.30	5.21	5.37



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430895/33 Calibration Date: 09/25/2018 21:23  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09251834.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	112916		66.6	73.0	-8.7	20.0
Ethene	Ave	86761	86462		127	128	-0.3	20.0
Acetylene	Ave	31649	30859		116	119	-2.5	20.0
Ethane	Ave	105575	106362		138	137	0.7	20.0
Propane	Ave	111887	108907		195	201	-2.7	20.0
isobutylene	Ave	76959	67625		224	255	-12.1	20.0
Butane	Ave	114835	101551		234	265	-11.6	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430895/33 Calibration Date: 09/25/2018 21:23  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09251834.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.70	1.70	1.78
Ethene	2.51	2.50	2.60
Acetylene	2.65	2.62	2.78
Ethane	2.88	2.88	2.98
Propane	4.69	4.65	4.77
isobutylene	6.00	5.93	6.09
Butane	6.15	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-431048/1 Calibration Date: 09/26/2018 09:39  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09261801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	143620		72.3	73.0	-1.0	20.0
Ethane	Ave	123886	138256		153	137	11.6	20.0
Ethene	Ave	100235	111677		142	128	11.4	20.0
Propane	Ave	131408	147197		225	201	12.0	20.0
Acetylene	Ave	36361	38727		126	119	6.5	20.0
Butane	Ave	135352	153263		300	265	13.2	20.0
isobutylene	Ave	91053	101414		284	255	11.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-431048/1 Calibration Date: 09/26/2018 09:39  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09261801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.29	1.25	1.33
Ethane	1.57	1.52	1.62
Ethene	1.90	1.85	1.95
Propane	2.65	2.59	2.71
Acetylene	4.07	3.99	4.15
Butane	4.39	4.31	4.47
isobutylene	5.31	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-431048/1 Calibration Date: 09/26/2018 09:39  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09261801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	123450		72.9	73.0	-0.2	20.0
Ethene	Ave	86761	95366		140	128	9.9	20.0
Acetylene	Ave	31649	34110		128	119	7.8	20.0
Ethane	Ave	105575	118402		153	137	12.1	20.0
Propane	Ave	111887	125503		225	201	12.2	20.0
isobutylene	Ave	76959	85349		283	255	10.9	20.0
Butane	Ave	114835	130441		300	265	13.6	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-431048/1 Calibration Date: 09/26/2018 09:39  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09261801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.72	1.68	1.76
Ethene	2.53	2.48	2.58
Acetylene	2.67	2.59	2.75
Ethane	2.91	2.86	2.96
Propane	4.69	4.63	4.75
isobutylene	6.00	5.92	6.08
Butane	6.15	6.07	6.23



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-431048/30 Calibration Date: 09/26/2018 15:30  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09261818.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	135460		68.2	73.0	-6.6	20.0
Ethane	Ave	123886	129509		143	137	4.5	20.0
Ethene	Ave	100235	106359		135	128	6.1	20.0
Propane	Ave	131408	135452		207	201	3.1	20.0
Acetylene	Ave	36361	38948		127	119	7.1	20.0
Butane	Ave	135352	134169		262	265	-0.9	20.0
isobutylene	Ave	91053	91160		256	255	0.1	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-431048/30 Calibration Date: 09/26/2018 15:30  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09261818.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.27	1.25	1.33
Ethane	1.54	1.52	1.62
Ethene	1.86	1.85	1.95
Propane	2.60	2.59	2.71
Acetylene	4.05	3.99	4.15
Butane	4.35	4.31	4.47
isobutylene	5.29	5.23	5.39



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-431048/30 Calibration Date: 09/26/2018 15:30  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09261818.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	116805		68.9	73.0	-5.6	20.0
Ethene	Ave	86761	91052		134	128	4.9	20.0
Acetylene	Ave	31649	34259		128	119	8.2	20.0
Ethane	Ave	105575	111249		144	137	5.4	20.0
Propane	Ave	111887	115869		208	201	3.6	20.0
isobutylene	Ave	76959	76874		255	255	-0.1	20.0
Butane	Ave	114835	114487		264	265	-0.3	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-431048/30 Calibration Date: 09/26/2018 15:30  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09261818.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.68	1.68	1.76
Ethene	2.50	2.48	2.58
Acetylene	2.65	2.59	2.75
Ethane	2.88	2.86	2.96
Propane	4.69	4.63	4.75
isobutylene	6.00	5.92	6.08
Butane	6.15	6.07	6.23



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-430408/4  
Matrix: Water Lab File ID: 09201804.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 17:56  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-430895/4  
Matrix: Water Lab File ID: 09251804.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 10:32  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-431048/4  
Matrix: Water Lab File ID: 09261804.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/26/2018 10:19  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 431048 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-430408/2  
Matrix: Water Lab File ID: 09201802.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 17:30  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	70.2		5.0	0.64
74-85-1	Ethene	142		5.0	0.40
74-84-0	Ethane	144		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-430895/2  
Matrix: Water Lab File ID: 09251802.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 10:06  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	64.7		5.0	0.64
74-85-1	Ethene	124		5.0	0.40
74-84-0	Ethane	132		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-431048/2  
Matrix: Water Lab File ID: 09261802.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/26/2018 09:52  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 431048 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	70.8		5.0	0.64
74-85-1	Ethene	140		5.0	0.40
74-84-0	Ethane	150		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-430408/3  
Matrix: Water Lab File ID: 09201803.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 17:43  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	64.6		5.0	0.64
74-85-1	Ethene	129		5.0	0.40
74-84-0	Ethane	132		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-430895/3  
Matrix: Water Lab File ID: 09251803.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 10:19  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	68.9		5.0	0.64
74-85-1	Ethene	134		5.0	0.40
74-84-0	Ethane	143		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-431048/3  
Matrix: Water Lab File ID: 09261803.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/26/2018 10:06  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 431048 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	74.9		5.0	0.64
74-85-1	Ethene	145		5.0	0.40
74-84-0	Ethane	159		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-404 MS Lab Sample ID: 280-114284-3 MS  
Matrix: Water Lab File ID: 09251811.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:05  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 16:20  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	1560		90	12
74-85-1	Ethene	5690		90	7.2
74-84-0	Ethane	2870		90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-410 MS Lab Sample ID: 280-114284-7 MS  
Matrix: Water Lab File ID: 09251821.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 18:31  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	7420		90	12
74-85-1	Ethene	5840		90	7.2
74-84-0	Ethane	6680		90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114216-G-5 MS  
Matrix: Water Lab File ID: 09201806.D  
Analysis Method: RSK-175 Date Collected: 09/11/2018 13:35  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 18:22  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	66.8		5.0	0.64
74-85-1	Ethene	129		5.0	0.40
74-84-0	Ethane	132		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114531-G-2 MS  
Matrix: Water Lab File ID: 09261814.D  
Analysis Method: RSK-175 Date Collected: 09/18/2018 09:35  
Sample wt/vol: 18 (mL) Date Analyzed: 09/26/2018 14:37  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 431048 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	6940		5.0	0.64
74-85-1	Ethene	98.1		5.0	0.40
74-84-0	Ethane	102		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-404 MSD Lab Sample ID: 280-114284-3 MSD  
Matrix: Water Lab File ID: 09251812.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:05  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 16:34  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	654		90	12
74-85-1	Ethene	2580		90	7.2
74-84-0	Ethane	1220		90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-410 MSD Lab Sample ID: 280-114284-7 MSD  
Matrix: Water Lab File ID: 09251822.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 14:15  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 18:44  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	6770		90	12
74-85-1	Ethene	5370		90	7.2
74-84-0	Ethane	6070		90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114216-H-5 MSD  
Matrix: Water Lab File ID: 09201807.D  
Analysis Method: RSK-175 Date Collected: 09/11/2018 13:35  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 18:35  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	62.7		5.0	0.64
74-85-1	Ethene	120		5.0	0.40
74-84-0	Ethane	123		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114531-G-2 MSD  
Matrix: Water Lab File ID: 09261815.D  
Analysis Method: RSK-175 Date Collected: 09/18/2018 09:35  
Sample wt/vol: 18 (mL) Date Analyzed: 09/26/2018 14:50  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 431048 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	6880		5.0	0.64
74-85-1	Ethene	96.9		5.0	0.40
74-84-0	Ethane	98.3		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-403 DU Lab Sample ID: 280-114284-2 DU  
Matrix: Water Lab File ID: 09251809.D  
Analysis Method: RSK-175 Date Collected: 09/12/2018 16:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/25/2018 15:54  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 18  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430895 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	140		90	12
74-85-1	Ethene	2060		90	7.2
74-84-0	Ethane	20.8	J	90	10



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114216-F-6 DU  
Matrix: Water Lab File ID: 09201809.D  
Analysis Method: RSK-175 Date Collected: 09/11/2018 10:30  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 19:02  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114284-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114531-F-1 DU  
Matrix: Water Lab File ID: 09261812.D  
Analysis Method: RSK-175 Date Collected: 09/18/2018 15:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/26/2018 14:10  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 431048 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	1720		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 07/27/2018 16:08Analysis Batch Number: 423985End Date: 07/27/2018 19:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-423985/1		07/27/2018 16:08	1	07271801.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/1		07/27/2018 16:08	1	07271801.D	HP-Plot Q 0.53 (mm)
IC 280-423985/2		07/27/2018 16:21	1	07271802.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/2		07/27/2018 16:21	1	07271802.D	HP-Plot Q 0.53 (mm)
IC 280-423985/3		07/27/2018 16:48	1	07271804.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/3		07/27/2018 16:48	1	07271804.D	HP-Plot Q 0.53 (mm)
IC 280-423985/4		07/27/2018 17:01	1	07271805.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/4		07/27/2018 17:01	1	07271805.D	HP-Plot Q 0.53 (mm)
ICRT 280-423985/5		07/27/2018 17:14	1	07271806.D	Rt-Alumina KCl 0.53 (mm)
ICRT 280-423985/5		07/27/2018 17:14	1	07271806.D	HP-Plot Q 0.53 (mm)
IC 280-423985/6		07/27/2018 17:27	1	07271807.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/6		07/27/2018 17:27	1	07271807.D	HP-Plot Q 0.53 (mm)
IC 280-423985/7		07/27/2018 17:41	1	07271808.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/7		07/27/2018 17:41	1	07271808.D	HP-Plot Q 0.53 (mm)
IC 280-423985/8		07/27/2018 17:54	1	07271809.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/8		07/27/2018 17:54	1	07271809.D	HP-Plot Q 0.53 (mm)
IC 280-423985/9		07/27/2018 18:07	1	07271810.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/9		07/27/2018 18:07	1	07271810.D	HP-Plot Q 0.53 (mm)
IC 280-423985/10		07/27/2018 18:20	1	07271811.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/10		07/27/2018 18:20	1	07271811.D	HP-Plot Q 0.53 (mm)
ICV 280-423985/12		07/27/2018 19:00	1	07271814.D	Rt-Alumina KCl 0.53 (mm)
ICV 280-423985/12		07/27/2018 19:00	1	07271814.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 09/20/2018 17:17Analysis Batch Number: 430408End Date: 09/20/2018 23:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-430408/1		09/20/2018 17:17	1	09201801.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-430408/1		09/20/2018 17:17	1	09201801.D	HP-Plot Q 0.53 (mm)
LCS 280-430408/2		09/20/2018 17:30	1	09201802.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-430408/2		09/20/2018 17:30	1	09201802.D	HP-Plot Q 0.53 (mm)
LCSD 280-430408/3		09/20/2018 17:43	1	09201803.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-430408/3		09/20/2018 17:43	1	09201803.D	HP-Plot Q 0.53 (mm)
MB 280-430408/4		09/20/2018 17:56	1	09201804.D	Rt-Alumina KCl 0.53 (mm)
MB 280-430408/4		09/20/2018 17:56	1	09201804.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 18:09	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 18:09	1		HP-Plot Q 0.53 (mm)
280-114216-G-5 MS		09/20/2018 18:22	1	09201806.D	Rt-Alumina KCl 0.53 (mm)
280-114216-G-5 MS		09/20/2018 18:22	1	09201806.D	HP-Plot Q 0.53 (mm)
280-114216-H-5 MSD		09/20/2018 18:35	1	09201807.D	Rt-Alumina KCl 0.53 (mm)
280-114216-H-5 MSD		09/20/2018 18:35	1	09201807.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 18:49	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 18:49	1		HP-Plot Q 0.53 (mm)
280-114216-F-6 DU		09/20/2018 19:02	1	09201809.D	Rt-Alumina KCl 0.53 (mm)
280-114216-F-6 DU		09/20/2018 19:02	1	09201809.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:15	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:15	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:28	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:28	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:41	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:41	1		HP-Plot Q 0.53 (mm)
280-114284-1		09/20/2018 19:54	1	09201813.D	Rt-Alumina KCl 0.53 (mm)
280-114284-1		09/20/2018 19:54	1	09201813.D	HP-Plot Q 0.53 (mm)
280-114284-2		09/20/2018 20:07	1	09201814.D	Rt-Alumina KCl 0.53 (mm)
280-114284-2		09/20/2018 20:07	1	09201814.D	HP-Plot Q 0.53 (mm)
280-114284-3		09/20/2018 20:20	1	09201815.D	Rt-Alumina KCl 0.53 (mm)
280-114284-3		09/20/2018 20:20	1	09201815.D	HP-Plot Q 0.53 (mm)
280-114284-4		09/20/2018 20:34	1	09201816.D	Rt-Alumina KCl 0.53 (mm)
280-114284-4		09/20/2018 20:34	1	09201816.D	HP-Plot Q 0.53 (mm)
280-114284-5		09/20/2018 20:47	1	09201817.D	Rt-Alumina KCl 0.53 (mm)
280-114284-5		09/20/2018 20:47	1	09201817.D	HP-Plot Q 0.53 (mm)
CCV 280-430408/30		09/20/2018 21:00	1	09201818.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-430408/30		09/20/2018 21:00	1	09201818.D	HP-Plot Q 0.53 (mm)
280-114284-6		09/20/2018 21:13	1	09201819.D	Rt-Alumina KCl 0.53 (mm)
280-114284-6		09/20/2018 21:13	1	09201819.D	HP-Plot Q 0.53 (mm)
280-114284-7		09/20/2018 21:26	1	09201820.D	Rt-Alumina KCl 0.53 (mm)
280-114284-7		09/20/2018 21:26	1	09201820.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 21:39	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 21:39	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 21:52	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 21:52	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 22:06	1		Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Start Date: 09/20/2018 17:17Analysis Batch Number: 430408 End Date: 09/20/2018 23:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/20/2018 22:06	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 22:19	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 22:19	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 22:32	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 22:32	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 22:45	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 22:45	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 22:58	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 22:58	1		HP-Plot Q 0.53 (mm)
CCV 280-430408/40		09/20/2018 23:11	1	09201828.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-430408/40		09/20/2018 23:11	1	09201828.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 09/25/2018 09:53Analysis Batch Number: 430895End Date: 09/25/2018 21:23

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-430895/1		09/25/2018 09:53	1	09251801.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-430895/1		09/25/2018 09:53	1	09251801.D	HP-Plot Q 0.53 (mm)
LCS 280-430895/2		09/25/2018 10:06	1	09251802.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-430895/2		09/25/2018 10:06	1	09251802.D	HP-Plot Q 0.53 (mm)
LCSD 280-430895/3		09/25/2018 10:19	1	09251803.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-430895/3		09/25/2018 10:19	1	09251803.D	HP-Plot Q 0.53 (mm)
MB 280-430895/4		09/25/2018 10:32	1	09251804.D	Rt-Alumina KCl 0.53 (mm)
MB 280-430895/4		09/25/2018 10:32	1	09251804.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 15:02	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 15:02	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 15:15	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 15:15	1		HP-Plot Q 0.53 (mm)
280-114284-1 DL		09/25/2018 15:28	3	09251807.D	Rt-Alumina KCl 0.53 (mm)
280-114284-1 DL		09/25/2018 15:28	3	09251807.D	HP-Plot Q 0.53 (mm)
280-114284-2		09/25/2018 15:41	18	09251808.D	Rt-Alumina KCl 0.53 (mm)
280-114284-2		09/25/2018 15:41	18	09251808.D	HP-Plot Q 0.53 (mm)
280-114284-2 DU		09/25/2018 15:54	18	09251809.D	Rt-Alumina KCl 0.53 (mm)
280-114284-2 DU		09/25/2018 15:54	18	09251809.D	HP-Plot Q 0.53 (mm)
280-114284-3		09/25/2018 16:07	18	09251810.D	Rt-Alumina KCl 0.53 (mm)
280-114284-3		09/25/2018 16:07	18	09251810.D	HP-Plot Q 0.53 (mm)
280-114284-3 MS		09/25/2018 16:20	18	09251811.D	Rt-Alumina KCl 0.53 (mm)
280-114284-3 MS		09/25/2018 16:20	18	09251811.D	HP-Plot Q 0.53 (mm)
280-114284-3 MSD		09/25/2018 16:34	18	09251812.D	Rt-Alumina KCl 0.53 (mm)
280-114284-3 MSD		09/25/2018 16:34	18	09251812.D	HP-Plot Q 0.53 (mm)
280-114284-4 DL		09/25/2018 16:47	36	09251813.D	Rt-Alumina KCl 0.53 (mm)
280-114284-4 DL		09/25/2018 16:47	36	09251813.D	HP-Plot Q 0.53 (mm)
280-114284-5 DL		09/25/2018 17:00	36	09251814.D	Rt-Alumina KCl 0.53 (mm)
280-114284-5 DL		09/25/2018 17:00	36	09251814.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 17:13	36		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 17:13	36		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 17:26	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 17:26	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 17:39	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 17:39	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 17:52	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 17:52	1		HP-Plot Q 0.53 (mm)
CCV 280-430895/18		09/25/2018 18:05	1	09251819.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-430895/18		09/25/2018 18:05	1	09251819.D	HP-Plot Q 0.53 (mm)
280-114284-7		09/25/2018 18:18	18	09251820.D	Rt-Alumina KCl 0.53 (mm)
280-114284-7		09/25/2018 18:18	18	09251820.D	HP-Plot Q 0.53 (mm)
280-114284-7 MS		09/25/2018 18:31	18	09251821.D	Rt-Alumina KCl 0.53 (mm)
280-114284-7 MS		09/25/2018 18:31	18	09251821.D	HP-Plot Q 0.53 (mm)
280-114284-7 MSD		09/25/2018 18:44	18	09251822.D	Rt-Alumina KCl 0.53 (mm)
280-114284-7 MSD		09/25/2018 18:44	18	09251822.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 18:57	1		Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 09/25/2018 09:53Analysis Batch Number: 430895End Date: 09/25/2018 21:23

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/25/2018 18:57	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 19:11	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 19:11	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 19:24	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 19:24	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 19:37	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 19:37	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 19:50	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 19:50	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 20:03	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 20:03	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 20:16	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 20:16	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 20:30	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 20:30	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 20:43	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 20:43	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 20:56	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 20:56	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/25/2018 21:09	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/25/2018 21:09	1		HP-Plot Q 0.53 (mm)
CCV 280-430895/33		09/25/2018 21:23	1	09251834.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-430895/33		09/25/2018 21:23	1	09251834.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 09/26/2018 09:39Analysis Batch Number: 431048End Date: 09/26/2018 18:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-431048/1		09/26/2018 09:39	1	09261801.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-431048/1		09/26/2018 09:39	1	09261801.D	HP-Plot Q 0.53 (mm)
LCS 280-431048/2		09/26/2018 09:52	1	09261802.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-431048/2		09/26/2018 09:52	1	09261802.D	HP-Plot Q 0.53 (mm)
LCSD 280-431048/3		09/26/2018 10:06	1	09261803.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-431048/3		09/26/2018 10:06	1	09261803.D	HP-Plot Q 0.53 (mm)
MB 280-431048/4		09/26/2018 10:19	1	09261804.D	Rt-Alumina KCl 0.53 (mm)
MB 280-431048/4		09/26/2018 10:19	1	09261804.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 12:37	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 12:37	3		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 12:50	18		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 12:50	18		HP-Plot Q 0.53 (mm)
280-114284-6 DL		09/26/2018 13:03	36	09261807.D	Rt-Alumina KCl 0.53 (mm)
280-114284-6 DL		09/26/2018 13:03	36	09261807.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 13:17	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 13:17	3		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 13:30	3		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 13:30	3		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 13:44	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 13:44	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 13:57	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 13:57	1		HP-Plot Q 0.53 (mm)
280-114531-F-1 DU		09/26/2018 14:10	1	09261812.D	Rt-Alumina KCl 0.53 (mm)
280-114531-F-1 DU		09/26/2018 14:10	1	09261812.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 14:24	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 14:24	1		HP-Plot Q 0.53 (mm)
280-114531-G-2 MS		09/26/2018 14:37	1	09261814.D	Rt-Alumina KCl 0.53 (mm)
280-114531-G-2 MS		09/26/2018 14:37	1	09261814.D	HP-Plot Q 0.53 (mm)
280-114531-G-2 MSD		09/26/2018 14:50	1	09261815.D	Rt-Alumina KCl 0.53 (mm)
280-114531-G-2 MSD		09/26/2018 14:50	1	09261815.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 15:04	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 15:04	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 15:17	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 15:17	1		HP-Plot Q 0.53 (mm)
CCV 280-431048/30		09/26/2018 15:30	1	09261818.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-431048/30		09/26/2018 15:30	1	09261818.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 15:43	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 15:43	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 15:56	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 15:56	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 16:10	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 16:10	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 16:23	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 16:23	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 16:36	1		Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-114284-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Start Date: 09/26/2018 09:39Analysis Batch Number: 431048 End Date: 09/26/2018 18:08

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/26/2018 16:36	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 16:49	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 16:49	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 17:02	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 17:02	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 17:15	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 17:15	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 17:28	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 17:28	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 17:42	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 17:42	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/26/2018 17:55	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/26/2018 17:55	1		HP-Plot Q 0.53 (mm)
CCV 280-431048/29		09/26/2018 18:08	1		Rt-Alumina KCl 0.53 (mm)
CCV 280-431048/29		09/26/2018 18:08	1		HP-Plot Q 0.53 (mm)



# Shipping and Receiving Documents



**TestAmerica Denver**

4955 Yarrow Street  
Arvada, CO 80002  
Phone (303) 736-0100 Fax (303) 431-7171

**Chain of Custody Record**
**TestAmerica**
THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Client Contact: Ms. Shannon Olson Company: CH2M Hill, Inc. Address: 2020 SW 4th Ave Suite 300 City: Portland State, Zip: OR, 97201 Phone: 503-736-4111(Tel) 503-736-2063(Fax) Email: shannon.olson@ch2m.com Project Name: THAN Davenport, IA - June 2017 GW Site:		Sample: <i>J. Graham / S. Bigda</i> Phone: 414-378-6331 Lab PM: Ide, Jamie N E-Mail: jamie.ide@testamericainc.com		Carrier Tracking No(s):  COC No: 280-79162-25922.1 Page: Page 1 of 5 Job #:										
Due Date Requested:  TAT Requested (days):  PO #: 131003606 WO #: 703539 Project #: 28013442 SSOW#:		<b>Analysis Requested</b> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">Field Filtered Sample (Yes or No)</td> <td style="width:5%;">Perform MS/MSD (Yes or No)</td> <td style="width:10%;">8260B - VOCs - Client Specific List</td> <td style="width:10%;">9060 - TOC (Quad)</td> <td style="width:10%;">2320B, 300.0, 28D, 300, 48HR, 3500_FE_D</td> <td style="width:10%;">SM4500_S2_F - Total Sulfide</td> <td style="width:10%;">RSK_175 - Dissolved Gases (MEE)</td> </tr> </table>				Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs - Client Specific List	9060 - TOC (Quad)	2320B, 300.0, 28D, 300, 48HR, 3500_FE_D	SM4500_S2_F - Total Sulfide	RSK_175 - Dissolved Gases (MEE)	<b>Preservation Codes:</b> A - HCL                      M - Hexane B - NaOH                    N - None C - Zn Acetate              O - AsNaO2 D - Nitric Acid              P - Na2O4S E - NaHSO4                  Q - Na2SO3 F - MeOH                    R - Na2S2O3 G - Amchlor                S - H2SO4 H - Ascorbic Acid          T - TSP Dodecahydrate I - Ice                        U - Acetone J - DI Water                V - MCAA K - EDTA                    W - pH 4-5 L - EDA                      Z - other (specify)  Other:	
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - VOCs - Client Specific List	9060 - TOC (Quad)	2320B, 300.0, 28D, 300, 48HR, 3500_FE_D	SM4500_S2_F - Total Sulfide	RSK_175 - Dissolved Gases (MEE)								
<b>Sample Identification</b> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Matrix (Water, Solid, Onwaste/soil, BT=Tissue, A=Air)</th> <th>Field Filtered Sample (Yes or No)</th></tr></thead></table>		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Onwaste/soil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No) <th>8260B - VOCs - Client Specific List</th> <th>9060 - TOC (Quad)</th> <th>2320B, 300.0, 28D, 300, 48HR, 3500_FE_D</th> <th>SM4500_S2_F - Total Sulfide</th> <th>RSK_175 - Dissolved Gases (MEE)</th> <th>Total Number of containers</th> <th>Special Instructions/Note:</th>	8260B - VOCs - Client Specific List	9060 - TOC (Quad)	2320B, 300.0, 28D, 300, 48HR, 3500_FE_D	SM4500_S2_F - Total Sulfide	RSK_175 - Dissolved Gases (MEE)	Total Number of containers	Special Instructions/Note:
Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Onwaste/soil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)										
AFDV-402	9/12/18	1655	G	Water	X	X	A	S	N	CB	A			
AFDV-403	7/12/18	1600	G	Water										
AFDV-404	7/12/18	1605	G	Water										
AFDV-407	9/12/18	1405	G	Water										
AFDV-408	9/12/18	1415	G	Water										
AFDV-409	9/12/18	1415	G	Water										
AFDV-410	9/12/18	1415	G	Water										
AFDV-416	9/12/18	1700	G	Water		X				X		VOCs only		
				Water										
				Water										
				Water										

 Barcode: 280-114284 Chain of Custody | || **Possible Hazard Identification**  ☐ Non-Hazard    ☐ Flammable    ☐ Skin Irritant    ☐ Poison B    ☐ Unknown    ☐ Radiological | | **Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)**  ☐ Return To Client    ☐ Disposal By Lab    ☐ Archive For \_\_\_\_\_ Months | | | |
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:					
Empty Kit Relinquished by: *Jackson Graham*		Date: 9/12/18 1800		Time:		Method of Shipment:	
Relinquished by: *Jackson Graham*		Date/Time: 9/12/18 1800		Company: *Jacobs*		Received by: *[Signature]*	
Relinquished by:		Date/Time:		Company:		Received by:	
Relinquished by:		Date/Time:		Company:		Received by:	
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: *4.3 to 5.5 transfered JBE*			



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-114284-1

**Login Number: 114284**  
**List Number: 1**  
**Creator: Quint, Jessica A**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Job Number: 280-114332-1

Job Description: THAN Davenport, IA - Groundwater

For:  
CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201  
Attention: Ms. Shannon Olson



Approved for release.  
Patrick J McEntee  
Manager of Project Management  
9/30/2018 8:27 PM

---

Designee for  
Jamie N Ide, Project Manager I  
4955 Yarrow Street, Arvada, CO, 80002  
(303)736-0126  
jamie.ide@testamericainc.com  
09/30/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	5
Definitions . . . . .	5
Case Narrative . . . . .	6
Detection Summary . . . . .	8
Client Sample Results . . . . .	11
Default Detection Limits . . . . .	19
Surrogate Summary . . . . .	20
QC Sample Results . . . . .	21
QC Association . . . . .	33
Chronicle . . . . .	36
Certification Summary . . . . .	39
Method Summary . . . . .	40
Sample Summary . . . . .	41
Manual Integration Summary . . . . .	42
Reagent Traceability . . . . .	51
Organic Sample Data . . . . .	60
GC/MS VOA . . . . .	60
Method 8260B . . . . .	60
Method 8260B QC Summary . . . . .	61
Method 8260B Sample Data . . . . .	86
Standards Data . . . . .	97
Method 8260B ICAL Data . . . . .	97
Method 8260B CCAL Data . . . . .	125
Raw QC Data . . . . .	141
Method 8260B Blank Data . . . . .	141



# Table of Contents

Method 8260B LCS/LCSD Data .....	143
Method 8260B MS/MSD Data .....	146
Method 8260B Run Logs .....	150
Method 8260B Prep Data .....	189
GC VOA .....	201
Method RSK-175 .....	201
Method RSK-175 QC Summary .....	202
Method RSK-175 Sample Data .....	213
Standards Data .....	217
Method RSK-175 ICAL Data .....	217
Method RSK-175 CCAL Data .....	223
Raw QC Data .....	239
Method RSK-175 Blank Data .....	239
Method RSK-175 LCS/LCSD Data .....	240
Method RSK-175 MS/MSD Data .....	242
Method RSK-175 Duplicate/Triplicate Data .....	244
Method RSK-175 Run Logs .....	245
Inorganic Sample Data .....	248
General Chemistry Data .....	248
Gen Chem Cover Page .....	249
Gen Chem Sample Data .....	250
Gen Chem QC Data .....	254
Gen Chem ICV/CCV .....	254
Gen Chem Blanks .....	260
Gen Chem MS/MSD/PDS .....	261
Gen Chem Duplicates .....	263



# Table of Contents

Gen Chem LCS/LCSD .....	264
Gen Chem MDL .....	267
Gen Chem Analysis Run Log .....	279
Gen Chem Prep Data .....	291
Shipping and Receiving Documents .....	305
Client Chain of Custody .....	306
Sample Receipt Checklist .....	308



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
E	Result exceeded calibration range.
B	Compound was found in the blank and sample.

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the absolute difference is less than the RL.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



## CASE NARRATIVE

Client: CH2M Hill, Inc.

Project: THAN Davenport, IA - Groundwater

Report Number: 280-114332-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 9/14/2018 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.6° C and 4.1° C.

### **Receipt Exceptions**

1 of 3 Voa Vials submitted for sample AFDV-411 (280-114332-1) was received broken. Volume could not be salvaged from the broken container but it can be noted that sufficient volume is available for analysis from the remaining containers. The client was notified on 9/17/18.

1 x 500mL Sulfuric Acid preserved amber glass container submitted for sample AFDV-414 (280-114332-4) was received labeled as "250mL" on the client label. The container was logged as 500mL and the laboratory will proceed with analysis unless instructed otherwise by the client. The client was notified on 9/17/18.

1 of 3 Voa Vials requesting 8260B VOCs for sample AFDV-406 (280-114332-8) was received with a headspace bubble greater than 6mm in diameter. Sufficient volume remains for analysis without headspace. The client was notified on 9/17/18.

### **VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Samples AFDV-411 (280-114332-1), AFDV-412 (280-114332-2), AFDV-413 (280-114332-3), AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-418 (280-114332-6), AFDV-405 (280-114332-7), AFDV-406 (280-114332-8) and AFDV-417 (280-114332-9) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 09/27/2018.

Acetone and Methylene Chloride were detected in method blank MB 280-431136/8 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimated, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Samples AFDV-412 (280-114332-2)[500X], AFDV-412 (280-114332-2)[5000X], AFDV-413 (280-114332-3)[500X] and AFDV-413 (280-114332-3)[5000X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **DISSOLVED GASES**

Samples AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-405 (280-114332-7) and AFDV-406 (280-114332-8) were analyzed for dissolved gases in accordance with RSK\_175. The samples were analyzed on 09/20/2018.

Analytes Acetylene/Ethane co-elute on one of the columns used for this analysis. As a result, there are no results reported for the %Difference in the concentration on the Form X.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **ALKALINITY**

Samples AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-405 (280-114332-7) and AFDV-406 (280-114332-8) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 09/18/2018.

Alkalinity exceeded the RPD limit for the duplicate of sample AFDV-414DU (280-114332-4). Refer to the QC report for details. Sample



matrix interference and/or non-homogeneity are suspected.

The following Continuing Calibration Blanks (CCB) returned Total Alkalinity in excess of the reporting limit. Results have been reported for samples with measured Total Alkalinity greater than 10 times that of all associated blanks.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ANIONS (28 DAYS)**

Samples AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-405 (280-114332-7) and AFDV-406 (280-114332-8) were analyzed for anions (28 days) in accordance with EPA Method 300.0. The samples were analyzed on 09/14/2018.

Sulfate was detected in method blank MB 280-429688/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Due to matrix interference, sample AFDV-414 (280-114332-4)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ANIONS (48 HOURS)**

Samples AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-405 (280-114332-7) and AFDV-406 (280-114332-8) were analyzed for anions (48 hours) in accordance with EPA Method 300.0. The samples were analyzed on 09/14/2018.

Due to matrix interference, sample AFDV-414 (280-114332-4)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **FERROUS IRON**

Samples AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-405 (280-114332-7) and AFDV-406 (280-114332-8) were analyzed for ferrous iron in accordance with SM19 3500 FE D. The samples were analyzed on 09/26/2018.

Ferrous Iron was detected in method blank MB 280-431131/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Ferrous Iron failed the recovery criteria low for the MS of sample AFDV-405MS (280-114332-7) in batch 280-431131. Ferrous Iron failed the recovery criteria low for the MSD of sample AFDV-405MSD (280-114332-7) in batch 280-431131. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL ORGANIC CARBON**

Samples AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-405 (280-114332-7) and AFDV-406 (280-114332-8) were analyzed for total organic carbon in accordance with EPA SW-846 Method 9060. The samples were analyzed on 09/21/2018 and 09/22/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **SULFIDE**

Samples AFDV-414 (280-114332-4), AFDV-415 (280-114332-5), AFDV-405 (280-114332-7) and AFDV-406 (280-114332-8) were analyzed for sulfide in accordance with SM20 4500 S2 F. The samples were analyzed on 09/19/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Client Sample ID: AFDV-411

## Lab Sample ID: 280-114332-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	21		1.0	0.22	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	1.7		1.0	0.13	ug/L	1		8260B	Total/NA
Benzene	2.3		1.0	0.16	ug/L	1		8260B	Total/NA
Chloroethane	32		2.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	24		1.0	0.15	ug/L	1		8260B	Total/NA
Methylene Chloride	0.68	J	2.0	0.32	ug/L	1		8260B	Total/NA
Vinyl chloride	39		1.0	0.10	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-412

## Lab Sample ID: 280-114332-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	17000	E	500	80	ug/L	500		8260B	Total/NA
1,1-Dichloroethane	4900		500	110	ug/L	500		8260B	Total/NA
1,1-Dichloroethene	930		500	120	ug/L	500		8260B	Total/NA
1,2-Dichloroethane	73	J	500	65	ug/L	500		8260B	Total/NA
Acetone	3300	J B	5000	950	ug/L	500		8260B	Total/NA
Benzene	96	J	500	80	ug/L	500		8260B	Total/NA
cis-1,2-Dichloroethene	43000	E	500	75	ug/L	500		8260B	Total/NA
Ethylbenzene	1800		500	80	ug/L	500		8260B	Total/NA
Methylene Chloride	93000	E B	1000	160	ug/L	500		8260B	Total/NA
m-Xylene & p-Xylene	2700		1000	170	ug/L	500		8260B	Total/NA
o-Xylene	1000		500	95	ug/L	500		8260B	Total/NA
Tetrachloroethene	220	J	500	100	ug/L	500		8260B	Total/NA
Toluene	15000	E	500	85	ug/L	500		8260B	Total/NA
trans-1,2-Dichloroethene	130	J	500	75	ug/L	500		8260B	Total/NA
Trichloroethene	280	J	500	80	ug/L	500		8260B	Total/NA
Vinyl chloride	20000	E	500	50	ug/L	500		8260B	Total/NA
Xylenes, Total	3700		1000	95	ug/L	500		8260B	Total/NA
1,1,1-Trichloroethane - DL	19000		5000	800	ug/L	5000		8260B	Total/NA
cis-1,2-Dichloroethene - DL	51000		5000	750	ug/L	5000		8260B	Total/NA
Methylene Chloride - DL	120000	B	10000	1600	ug/L	5000		8260B	Total/NA
Toluene - DL	19000		5000	850	ug/L	5000		8260B	Total/NA
Vinyl chloride - DL	24000		5000	500	ug/L	5000		8260B	Total/NA

## Client Sample ID: AFDV-413

## Lab Sample ID: 280-114332-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	18000	E	500	80	ug/L	500		8260B	Total/NA
1,1-Dichloroethane	4900		500	110	ug/L	500		8260B	Total/NA
1,1-Dichloroethene	890		500	120	ug/L	500		8260B	Total/NA
1,2-Dichloroethane	80	J	500	65	ug/L	500		8260B	Total/NA
Acetone	3100	J B	5000	950	ug/L	500		8260B	Total/NA
Benzene	97	J	500	80	ug/L	500		8260B	Total/NA
cis-1,2-Dichloroethene	44000	E	500	75	ug/L	500		8260B	Total/NA
Ethylbenzene	1700		500	80	ug/L	500		8260B	Total/NA
Methylene Chloride	96000	E B	1000	160	ug/L	500		8260B	Total/NA
m-Xylene & p-Xylene	2600		1000	170	ug/L	500		8260B	Total/NA
o-Xylene	1000		500	95	ug/L	500		8260B	Total/NA
Tetrachloroethene	210	J	500	100	ug/L	500		8260B	Total/NA
Toluene	15000	E	500	85	ug/L	500		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Client Sample ID: AFDV-413 (Continued)

## Lab Sample ID: 280-114332-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	130	J	500	75	ug/L	500		8260B	Total/NA
Trichloroethene	270	J	500	80	ug/L	500		8260B	Total/NA
Vinyl chloride	20000	E	500	50	ug/L	500		8260B	Total/NA
Xylenes, Total	3600		1000	95	ug/L	500		8260B	Total/NA
1,1,1-Trichloroethane - DL	21000		5000	800	ug/L	5000		8260B	Total/NA
cis-1,2-Dichloroethene - DL	52000		5000	750	ug/L	5000		8260B	Total/NA
Methylene Chloride - DL	120000	B	10000	1600	ug/L	5000		8260B	Total/NA
Toluene - DL	19000		5000	850	ug/L	5000		8260B	Total/NA
Vinyl chloride - DL	26000		5000	500	ug/L	5000		8260B	Total/NA

## Client Sample ID: AFDV-414

## Lab Sample ID: 280-114332-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	8.4	J B	10	1.9	ug/L	1		8260B	Total/NA
Ethylbenzene	0.53	J	1.0	0.16	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	1.0	J	2.0	0.34	ug/L	1		8260B	Total/NA
o-Xylene	0.63	J	1.0	0.19	ug/L	1		8260B	Total/NA
Xylenes, Total	1.6	J	2.0	0.19	ug/L	1		8260B	Total/NA
Sulfate	0.51	J B	10	0.46	mg/L	2		300.0	Total/NA
Alkalinity	1.6	J	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Ferrous Iron	0.028	J HF B	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-415

## Lab Sample ID: 280-114332-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.7	J B	10	1.9	ug/L	1		8260B	Total/NA
Ethylbenzene	0.48	J	1.0	0.16	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	0.95	J	2.0	0.34	ug/L	1		8260B	Total/NA
o-Xylene	0.59	J	1.0	0.19	ug/L	1		8260B	Total/NA
Xylenes, Total	1.5	J	2.0	0.19	ug/L	1		8260B	Total/NA
Alkalinity	1.6	J	5.0	1.1	mg/L	1		SM 2320B	Total/NA
Ferrous Iron	0.025	J HF B	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-418

## Lab Sample ID: 280-114332-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.0	J B	10	1.9	ug/L	1		8260B	Total/NA

## Client Sample ID: AFDV-405

## Lab Sample ID: 280-114332-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.4	J B	10	1.9	ug/L	1		8260B	Total/NA
Methane	6.5		5.0	0.64	ug/L	1		RSK-175	Total/NA
Chloride	26		3.0	0.25	mg/L	1		300.0	Total/NA
Sulfate	160	B	5.0	0.23	mg/L	1		300.0	Total/NA
Total Organic Carbon - Average	2.0		1.0	0.16	mg/L	1		9060	Total/NA
Alkalinity	330		5.0	1.1	mg/L	1		SM 2320B	Total/NA
Ferrous Iron	0.059	J HF B	0.20	0.021	mg/L	1		SM3500_FE_D	Total/NA

## Client Sample ID: AFDV-406

## Lab Sample ID: 280-114332-8

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



## Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

### Client Sample ID: AFDV-406 (Continued)

### Lab Sample ID: 280-114332-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	8.7	J B	10	1.9	ug/L	1			8260B	Total/NA
Methane	6.9		5.0	0.64	ug/L	1			RSK-175	Total/NA
Chloride	26		3.0	0.25	mg/L	1			300.0	Total/NA
Sulfate	160	B	5.0	0.23	mg/L	1			300.0	Total/NA
Total Organic Carbon - Average	2.0		1.0	0.16	mg/L	1			9060	Total/NA
Alkalinity	330		5.0	1.1	mg/L	1			SM 2320B	Total/NA
Ferrous Iron	0.038	J HF B	0.20	0.021	mg/L	1			SM3500_FE_D	Total/NA

### Client Sample ID: AFDV-417

### Lab Sample ID: 280-114332-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	5.8	J B	10	1.9	ug/L	1			8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-411**

**Date Collected: 09/13/18 13:40**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-1**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 20:45	1
<b>1,1-Dichloroethane</b>	<b>21</b>		1.0	0.22	ug/L			09/27/18 20:45	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 20:45	1
<b>1,2-Dichloroethane</b>	<b>1.7</b>		1.0	0.13	ug/L			09/27/18 20:45	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 20:45	1
Acetone	ND		10	1.9	ug/L			09/27/18 20:45	1
<b>Benzene</b>	<b>2.3</b>		1.0	0.16	ug/L			09/27/18 20:45	1
<b>Chloroethane</b>	<b>32</b>		2.0	0.41	ug/L			09/27/18 20:45	1
<b>cis-1,2-Dichloroethene</b>	<b>24</b>		1.0	0.15	ug/L			09/27/18 20:45	1
Ethylbenzene	ND		1.0	0.16	ug/L			09/27/18 20:45	1
<b>Methylene Chloride</b>	<b>0.68</b>	<b>J</b>	2.0	0.32	ug/L			09/27/18 20:45	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			09/27/18 20:45	1
o-Xylene	ND		1.0	0.19	ug/L			09/27/18 20:45	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 20:45	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 20:45	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 20:45	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 20:45	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 20:45	1
<b>Vinyl chloride</b>	<b>39</b>		1.0	0.10	ug/L			09/27/18 20:45	1
Xylenes, Total	ND		2.0	0.19	ug/L			09/27/18 20:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 127		09/27/18 20:45	1
4-Bromofluorobenzene (Surr)	104		78 - 120		09/27/18 20:45	1
Dibromofluoromethane (Surr)	91		77 - 120		09/27/18 20:45	1
Toluene-d8 (Surr)	109		80 - 125		09/27/18 20:45	1

**Client Sample ID: AFDV-412**

**Date Collected: 09/13/18 13:35**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-2**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1,1-Trichloroethane</b>	<b>17000</b>	<b>E</b>	500	80	ug/L			09/27/18 03:19	500
<b>1,1-Dichloroethane</b>	<b>4900</b>		500	110	ug/L			09/27/18 03:19	500
<b>1,1-Dichloroethene</b>	<b>930</b>		500	120	ug/L			09/27/18 03:19	500
<b>1,2-Dichloroethane</b>	<b>73</b>	<b>J</b>	500	65	ug/L			09/27/18 03:19	500
Methyl ethyl ketone (MEK)	ND		3000	1000	ug/L			09/27/18 03:19	500
<b>Acetone</b>	<b>3300</b>	<b>J B</b>	5000	950	ug/L			09/27/18 03:19	500
<b>Benzene</b>	<b>96</b>	<b>J</b>	500	80	ug/L			09/27/18 03:19	500
Chloroethane	ND		1000	210	ug/L			09/27/18 03:19	500
<b>cis-1,2-Dichloroethene</b>	<b>43000</b>	<b>E</b>	500	75	ug/L			09/27/18 03:19	500
<b>Ethylbenzene</b>	<b>1800</b>		500	80	ug/L			09/27/18 03:19	500
<b>Methylene Chloride</b>	<b>93000</b>	<b>E B</b>	1000	160	ug/L			09/27/18 03:19	500
<b>m-Xylene &amp; p-Xylene</b>	<b>2700</b>		1000	170	ug/L			09/27/18 03:19	500
<b>o-Xylene</b>	<b>1000</b>		500	95	ug/L			09/27/18 03:19	500
Styrene	ND		500	85	ug/L			09/27/18 03:19	500
<b>Tetrachloroethene</b>	<b>220</b>	<b>J</b>	500	100	ug/L			09/27/18 03:19	500
<b>Toluene</b>	<b>15000</b>	<b>E</b>	500	85	ug/L			09/27/18 03:19	500
<b>trans-1,2-Dichloroethene</b>	<b>130</b>	<b>J</b>	500	75	ug/L			09/27/18 03:19	500

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-412**

**Lab Sample ID: 280-114332-2**

**Date Collected: 09/13/18 13:35**

**Matrix: Water**

**Date Received: 09/14/18 09:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	280	J	500	80	ug/L			09/27/18 03:19	500
Vinyl chloride	20000	E	500	50	ug/L			09/27/18 03:19	500
Xylenes, Total	3700		1000	95	ug/L			09/27/18 03:19	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		09/27/18 03:19	500
4-Bromofluorobenzene (Surr)	109		78 - 120		09/27/18 03:19	500
Dibromofluoromethane (Surr)	97		77 - 120		09/27/18 03:19	500
Toluene-d8 (Surr)	103		80 - 125		09/27/18 03:19	500

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	19000		5000	800	ug/L			09/27/18 03:41	5000
cis-1,2-Dichloroethene	51000		5000	750	ug/L			09/27/18 03:41	5000
Methylene Chloride	120000	B	10000	1600	ug/L			09/27/18 03:41	5000
Toluene	19000		5000	850	ug/L			09/27/18 03:41	5000
Vinyl chloride	24000		5000	500	ug/L			09/27/18 03:41	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127		09/27/18 03:41	5000
4-Bromofluorobenzene (Surr)	108		78 - 120		09/27/18 03:41	5000
Dibromofluoromethane (Surr)	97		77 - 120		09/27/18 03:41	5000
Toluene-d8 (Surr)	105		80 - 125		09/27/18 03:41	5000

**Client Sample ID: AFDV-413**

**Lab Sample ID: 280-114332-3**

**Date Collected: 09/13/18 13:40**

**Matrix: Water**

**Date Received: 09/14/18 09:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	18000	E	500	80	ug/L			09/27/18 04:02	500
1,1-Dichloroethane	4900		500	110	ug/L			09/27/18 04:02	500
1,1-Dichloroethene	890		500	120	ug/L			09/27/18 04:02	500
1,2-Dichloroethane	80	J	500	65	ug/L			09/27/18 04:02	500
Methyl ethyl ketone (MEK)	ND		3000	1000	ug/L			09/27/18 04:02	500
Acetone	3100	J B	5000	950	ug/L			09/27/18 04:02	500
Benzene	97	J	500	80	ug/L			09/27/18 04:02	500
Chloroethane	ND		1000	210	ug/L			09/27/18 04:02	500
cis-1,2-Dichloroethene	44000	E	500	75	ug/L			09/27/18 04:02	500
Ethylbenzene	1700		500	80	ug/L			09/27/18 04:02	500
Methylene Chloride	96000	E B	1000	160	ug/L			09/27/18 04:02	500
m-Xylene & p-Xylene	2600		1000	170	ug/L			09/27/18 04:02	500
o-Xylene	1000		500	95	ug/L			09/27/18 04:02	500
Styrene	ND		500	85	ug/L			09/27/18 04:02	500
Tetrachloroethene	210	J	500	100	ug/L			09/27/18 04:02	500
Toluene	15000	E	500	85	ug/L			09/27/18 04:02	500
trans-1,2-Dichloroethene	130	J	500	75	ug/L			09/27/18 04:02	500
Trichloroethene	270	J	500	80	ug/L			09/27/18 04:02	500
Vinyl chloride	20000	E	500	50	ug/L			09/27/18 04:02	500
Xylenes, Total	3600		1000	95	ug/L			09/27/18 04:02	500

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-413**

**Date Collected: 09/13/18 13:40**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-3**

**Matrix: Water**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 127		09/27/18 04:02	500
4-Bromofluorobenzene (Surr)	111		78 - 120		09/27/18 04:02	500
Dibromofluoromethane (Surr)	101		77 - 120		09/27/18 04:02	500
Toluene-d8 (Surr)	103		80 - 125		09/27/18 04:02	500

## Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	21000		5000	800	ug/L			09/27/18 04:23	5000
cis-1,2-Dichloroethene	52000		5000	750	ug/L			09/27/18 04:23	5000
Methylene Chloride	120000	B	10000	1600	ug/L			09/27/18 04:23	5000
Toluene	19000		5000	850	ug/L			09/27/18 04:23	5000
Vinyl chloride	26000		5000	500	ug/L			09/27/18 04:23	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127		09/27/18 04:23	5000
4-Bromofluorobenzene (Surr)	110		78 - 120		09/27/18 04:23	5000
Dibromofluoromethane (Surr)	96		77 - 120		09/27/18 04:23	5000
Toluene-d8 (Surr)	105		80 - 125		09/27/18 04:23	5000

**Client Sample ID: AFDV-414**

**Date Collected: 09/13/18 15:00**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-4**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 04:45	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/27/18 04:45	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 04:45	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/27/18 04:45	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 04:45	1
Acetone	8.4	J B	10	1.9	ug/L			09/27/18 04:45	1
Benzene	ND		1.0	0.16	ug/L			09/27/18 04:45	1
Chloroethane	ND		2.0	0.41	ug/L			09/27/18 04:45	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 04:45	1
Ethylbenzene	0.53	J	1.0	0.16	ug/L			09/27/18 04:45	1
Methylene Chloride	ND		2.0	0.32	ug/L			09/27/18 04:45	1
m-Xylene & p-Xylene	1.0	J	2.0	0.34	ug/L			09/27/18 04:45	1
o-Xylene	0.63	J	1.0	0.19	ug/L			09/27/18 04:45	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 04:45	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 04:45	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 04:45	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 04:45	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 04:45	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/27/18 04:45	1
Xylenes, Total	1.6	J	2.0	0.19	ug/L			09/27/18 04:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 127		09/27/18 04:45	1
4-Bromofluorobenzene (Surr)	106		78 - 120		09/27/18 04:45	1
Dibromofluoromethane (Surr)	96		77 - 120		09/27/18 04:45	1
Toluene-d8 (Surr)	103		80 - 125		09/27/18 04:45	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	0.64	ug/L			09/20/18 21:39	1
Ethene	ND		5.0	0.40	ug/L			09/20/18 21:39	1
Ethane	ND		5.0	0.57	ug/L			09/20/18 21:39	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		6.0	0.51	mg/L			09/14/18 20:28	2
Nitrate as N	ND		1.0	0.084	mg/L			09/14/18 20:28	2
Sulfate	0.51	J B	10	0.46	mg/L			09/14/18 20:28	2
Total Organic Carbon - Average	ND		1.0	0.16	mg/L			09/22/18 00:27	1
Alkalinity	1.6	J	5.0	1.1	mg/L			09/18/18 21:48	1
Sulfide	ND		1.0	0.50	mg/L			09/19/18 10:33	1
Ferrous Iron	0.028	J HF B	0.20	0.021	mg/L			09/26/18 18:20	1

Client Sample ID: AFDV-415

Date Collected: 09/13/18 14:30

Date Received: 09/14/18 09:20

Lab Sample ID: 280-114332-5

Matrix: Water

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 05:06	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/27/18 05:06	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 05:06	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/27/18 05:06	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 05:06	1
Acetone	7.7	J B	10	1.9	ug/L			09/27/18 05:06	1
Benzene	ND		1.0	0.16	ug/L			09/27/18 05:06	1
Chloroethane	ND		2.0	0.41	ug/L			09/27/18 05:06	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 05:06	1
Ethylbenzene	0.48	J	1.0	0.16	ug/L			09/27/18 05:06	1
Methylene Chloride	ND		2.0	0.32	ug/L			09/27/18 05:06	1
m-Xylene & p-Xylene	0.95	J	2.0	0.34	ug/L			09/27/18 05:06	1
o-Xylene	0.59	J	1.0	0.19	ug/L			09/27/18 05:06	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 05:06	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 05:06	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 05:06	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 05:06	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 05:06	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/27/18 05:06	1
Xylenes, Total	1.5	J	2.0	0.19	ug/L			09/27/18 05:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		09/27/18 05:06	1
4-Bromofluorobenzene (Surr)	108		78 - 120		09/27/18 05:06	1
Dibromofluoromethane (Surr)	95		77 - 120		09/27/18 05:06	1
Toluene-d8 (Surr)	101		80 - 125		09/27/18 05:06	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	0.64	ug/L			09/20/18 22:06	1
Ethene	ND		5.0	0.40	ug/L			09/20/18 22:06	1
Ethane	ND		5.0	0.57	ug/L			09/20/18 22:06	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-415**

**Date Collected: 09/13/18 14:30**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-5**

**Matrix: Water**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			09/14/18 21:13	1
Nitrate as N	ND		0.50	0.042	mg/L			09/14/18 21:13	1
Sulfate	ND		5.0	0.23	mg/L			09/14/18 21:13	1
Total Organic Carbon - Average	ND		1.0	0.16	mg/L			09/22/18 00:42	1
<b>Alkalinity</b>	<b>1.6</b>	<b>J</b>	5.0	1.1	mg/L			09/18/18 21:58	1
Sulfide	ND		1.0	0.50	mg/L			09/19/18 10:33	1
<b>Ferrous Iron</b>	<b>0.025</b>	<b>J HF B</b>	0.20	0.021	mg/L			09/26/18 18:20	1

**Client Sample ID: AFDV-418**

**Date Collected: 09/13/18 15:35**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-6**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 05:28	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/27/18 05:28	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 05:28	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/27/18 05:28	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 05:28	1
<b>Acetone</b>	<b>5.0</b>	<b>J B</b>	10	1.9	ug/L			09/27/18 05:28	1
Benzene	ND		1.0	0.16	ug/L			09/27/18 05:28	1
Chloroethane	ND		2.0	0.41	ug/L			09/27/18 05:28	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 05:28	1
Ethylbenzene	ND		1.0	0.16	ug/L			09/27/18 05:28	1
Methylene Chloride	ND		2.0	0.32	ug/L			09/27/18 05:28	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			09/27/18 05:28	1
o-Xylene	ND		1.0	0.19	ug/L			09/27/18 05:28	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 05:28	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 05:28	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 05:28	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 05:28	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 05:28	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/27/18 05:28	1
Xylenes, Total	ND		2.0	0.19	ug/L			09/27/18 05:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 127		09/27/18 05:28	1
4-Bromofluorobenzene (Surr)	110		78 - 120		09/27/18 05:28	1
Dibromofluoromethane (Surr)	92		77 - 120		09/27/18 05:28	1
Toluene-d8 (Surr)	104		80 - 125		09/27/18 05:28	1

**Client Sample ID: AFDV-405**

**Date Collected: 09/13/18 11:00**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-7**

**Matrix: Water**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 05:49	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/27/18 05:49	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 05:49	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-405**

**Lab Sample ID: 280-114332-7**

**Date Collected: 09/13/18 11:00**

**Matrix: Water**

**Date Received: 09/14/18 09:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/27/18 05:49	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 05:49	1
<b>Acetone</b>	<b>6.4</b>	<b>J B</b>	10	1.9	ug/L			09/27/18 05:49	1
Benzene	ND		1.0	0.16	ug/L			09/27/18 05:49	1
Chloroethane	ND		2.0	0.41	ug/L			09/27/18 05:49	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 05:49	1
Ethylbenzene	ND		1.0	0.16	ug/L			09/27/18 05:49	1
Methylene Chloride	ND		2.0	0.32	ug/L			09/27/18 05:49	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			09/27/18 05:49	1
o-Xylene	ND		1.0	0.19	ug/L			09/27/18 05:49	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 05:49	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 05:49	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 05:49	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 05:49	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 05:49	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/27/18 05:49	1
Xylenes, Total	ND		2.0	0.19	ug/L			09/27/18 05:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127		09/27/18 05:49	1
4-Bromofluorobenzene (Surr)	110		78 - 120		09/27/18 05:49	1
Dibromofluoromethane (Surr)	99		77 - 120		09/27/18 05:49	1
Toluene-d8 (Surr)	107		80 - 125		09/27/18 05:49	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>6.5</b>		5.0	0.64	ug/L			09/20/18 22:19	1
Ethene	ND		5.0	0.40	ug/L			09/20/18 22:19	1
Ethane	ND		5.0	0.57	ug/L			09/20/18 22:19	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>26</b>		3.0	0.25	mg/L			09/14/18 19:00	1
Nitrate as N	ND		0.50	0.042	mg/L			09/14/18 19:00	1
<b>Sulfate</b>	<b>160</b>	<b>B</b>	5.0	0.23	mg/L			09/14/18 19:00	1
<b>Total Organic Carbon - Average</b>	<b>2.0</b>		1.0	0.16	mg/L			09/21/18 21:12	1
<b>Alkalinity</b>	<b>330</b>		5.0	1.1	mg/L			09/18/18 22:05	1
Sulfide	ND		1.0	0.50	mg/L			09/19/18 10:33	1
<b>Ferrous Iron</b>	<b>0.059</b>	<b>J HF B</b>	0.20	0.021	mg/L			09/26/18 18:20	1

**Client Sample ID: AFDV-406**

**Lab Sample ID: 280-114332-8**

**Date Collected: 09/13/18 11:10**

**Matrix: Water**

**Date Received: 09/14/18 09:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 06:54	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/27/18 06:54	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 06:54	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/27/18 06:54	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-406**

**Lab Sample ID: 280-114332-8**

**Date Collected: 09/13/18 11:10**

**Matrix: Water**

**Date Received: 09/14/18 09:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 06:54	1
<b>Acetone</b>	<b>8.7</b>	<b>J B</b>	10	1.9	ug/L			09/27/18 06:54	1
Benzene	ND		1.0	0.16	ug/L			09/27/18 06:54	1
Chloroethane	ND		2.0	0.41	ug/L			09/27/18 06:54	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 06:54	1
Ethylbenzene	ND		1.0	0.16	ug/L			09/27/18 06:54	1
Methylene Chloride	ND		2.0	0.32	ug/L			09/27/18 06:54	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			09/27/18 06:54	1
o-Xylene	ND		1.0	0.19	ug/L			09/27/18 06:54	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 06:54	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 06:54	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 06:54	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 06:54	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 06:54	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/27/18 06:54	1
Xylenes, Total	ND		2.0	0.19	ug/L			09/27/18 06:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127		09/27/18 06:54	1
4-Bromofluorobenzene (Surr)	110		78 - 120		09/27/18 06:54	1
Dibromofluoromethane (Surr)	97		77 - 120		09/27/18 06:54	1
Toluene-d8 (Surr)	106		80 - 125		09/27/18 06:54	1

## Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Methane</b>	<b>6.9</b>		5.0	0.64	ug/L			09/20/18 22:58	1
Ethene	ND		5.0	0.40	ug/L			09/20/18 22:58	1
Ethane	ND		5.0	0.57	ug/L			09/20/18 22:58	1

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chloride</b>	<b>26</b>		3.0	0.25	mg/L			09/14/18 21:35	1
Nitrate as N	ND		0.50	0.042	mg/L			09/14/18 21:35	1
<b>Sulfate</b>	<b>160</b>	<b>B</b>	5.0	0.23	mg/L			09/14/18 21:35	1
<b>Total Organic Carbon - Average</b>	<b>2.0</b>		1.0	0.16	mg/L			09/22/18 03:07	1
<b>Alkalinity</b>	<b>330</b>		5.0	1.1	mg/L			09/18/18 22:11	1
Sulfide	ND		1.0	0.50	mg/L			09/19/18 10:33	1
<b>Ferrous Iron</b>	<b>0.038</b>	<b>J HF B</b>	0.20	0.021	mg/L			09/26/18 18:20	1

**Client Sample ID: AFDV-417**

**Lab Sample ID: 280-114332-9**

**Date Collected: 09/13/18 15:30**

**Matrix: Water**

**Date Received: 09/14/18 09:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 07:15	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/27/18 07:15	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 07:15	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/27/18 07:15	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 07:15	1

TestAmerica Denver



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-417**

**Lab Sample ID: 280-114332-9**

**Date Collected: 09/13/18 15:30**

**Matrix: Water**

**Date Received: 09/14/18 09:20**

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.8	J B	10	1.9	ug/L			09/27/18 07:15	1
Benzene	ND		1.0	0.16	ug/L			09/27/18 07:15	1
Chloroethane	ND		2.0	0.41	ug/L			09/27/18 07:15	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 07:15	1
Ethylbenzene	ND		1.0	0.16	ug/L			09/27/18 07:15	1
Methylene Chloride	ND		2.0	0.32	ug/L			09/27/18 07:15	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			09/27/18 07:15	1
o-Xylene	ND		1.0	0.19	ug/L			09/27/18 07:15	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 07:15	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 07:15	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 07:15	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 07:15	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 07:15	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/27/18 07:15	1
Xylenes, Total	ND		2.0	0.19	ug/L			09/27/18 07:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 127					09/27/18 07:15	1
4-Bromofluorobenzene (Surr)	108		78 - 120					09/27/18 07:15	1
Dibromofluoromethane (Surr)	97		77 - 120					09/27/18 07:15	1
Toluene-d8 (Surr)	105		80 - 125					09/27/18 07:15	1



## Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

### Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	RL	MDL	Units	Method
1,1,1-Trichloroethane	1.0	0.16	ug/L	8260B
1,1-Dichloroethane	1.0	0.22	ug/L	8260B
1,1-Dichloroethene	1.0	0.23	ug/L	8260B
1,2-Dichloroethane	1.0	0.13	ug/L	8260B
Acetone	10	1.9	ug/L	8260B
Benzene	1.0	0.16	ug/L	8260B
Chloroethane	2.0	0.41	ug/L	8260B
cis-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Ethylbenzene	1.0	0.16	ug/L	8260B
Methyl ethyl ketone (MEK)	6.0	2.0	ug/L	8260B
Methylene Chloride	2.0	0.32	ug/L	8260B
m-Xylene & p-Xylene	2.0	0.34	ug/L	8260B
o-Xylene	1.0	0.19	ug/L	8260B
Styrene	1.0	0.17	ug/L	8260B
Tetrachloroethene	1.0	0.20	ug/L	8260B
Toluene	1.0	0.17	ug/L	8260B
trans-1,2-Dichloroethene	1.0	0.15	ug/L	8260B
Trichloroethene	1.0	0.16	ug/L	8260B
Vinyl chloride	1.0	0.10	ug/L	8260B
Xylenes, Total	2.0	0.19	ug/L	8260B

### Method: RSK-175 - Dissolved Gases (GC)

Analyte	RL	MDL	Units	Method
Ethane	5.0	0.57	ug/L	RSK-175
Ethene	5.0	0.40	ug/L	RSK-175
Methane	5.0	0.64	ug/L	RSK-175

### General Chemistry

Analyte	RL	MDL	Units	Method
Chloride	3.0	0.25	mg/L	300.0
Nitrate as N	0.50	0.042	mg/L	300.0
Sulfate	5.0	0.23	mg/L	300.0
Total Organic Carbon - Average	1.0	0.16	mg/L	9060
Alkalinity	5.0	1.1	mg/L	SM 2320B
Sulfide	1.0	0.50	mg/L	SM 4500 S2 F
Ferrous Iron	0.20	0.021	mg/L	SM3500_FE_D



# Surrogate Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-127)	BFB (78-120)	DBFM (77-120)	TOL (80-125)
280-114332-1	AFDV-411	88	104	91	109
280-114332-2	AFDV-412	96	109	97	103
280-114332-2 - DL	AFDV-412	100	108	97	105
280-114332-3	AFDV-413	99	111	101	103
280-114332-3 - DL	AFDV-413	100	110	96	105
280-114332-4	AFDV-414	96	106	96	103
280-114332-5	AFDV-415	98	108	95	101
280-114332-6	AFDV-418	97	110	92	104
280-114332-7	AFDV-405	98	110	99	107
280-114332-7 MS	AFDV-405	95	103	94	102
280-114332-7 MSD	AFDV-405	97	104	96	105
280-114332-8	AFDV-406	100	110	97	106
280-114332-9	AFDV-417	98	108	97	105
280-114425-K-1 MS	Matrix Spike	112	106	105	108
280-114425-K-1 MSD	Matrix Spike Duplicate	113	106	105	108
LCS 280-431136/4	Lab Control Sample	90	103	90	102
LCS 280-431297/4	Lab Control Sample	108	107	105	109
LCSD 280-431297/5	Lab Control Sample Dup	104	104	102	105
MB 280-431136/8	Method Blank	95	108	96	103
MB 280-431297/6	Method Blank	100	100	98	102

### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 280-431136/8

Matrix: Water

Analysis Batch: 431136

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/26/18 23:20	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/26/18 23:20	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/26/18 23:20	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/26/18 23:20	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/26/18 23:20	1
Acetone	4.80	J	10	1.9	ug/L			09/26/18 23:20	1
Benzene	ND		1.0	0.16	ug/L			09/26/18 23:20	1
Chloroethane	ND		2.0	0.41	ug/L			09/26/18 23:20	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/26/18 23:20	1
Ethylbenzene	ND		1.0	0.16	ug/L			09/26/18 23:20	1
Methylene Chloride	0.389	J	2.0	0.32	ug/L			09/26/18 23:20	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			09/26/18 23:20	1
o-Xylene	ND		1.0	0.19	ug/L			09/26/18 23:20	1
Styrene	ND		1.0	0.17	ug/L			09/26/18 23:20	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/26/18 23:20	1
Toluene	ND		1.0	0.17	ug/L			09/26/18 23:20	1
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/26/18 23:20	1
Trichloroethene	ND		1.0	0.16	ug/L			09/26/18 23:20	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/26/18 23:20	1
Xylenes, Total	ND		2.0	0.19	ug/L			09/26/18 23:20	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 127					09/26/18 23:20	1
4-Bromofluorobenzene (Surr)	108		78 - 120					09/26/18 23:20	1
Dibromofluoromethane (Surr)	96		77 - 120					09/26/18 23:20	1
Toluene-d8 (Surr)	103		80 - 125					09/26/18 23:20	1

Lab Sample ID: LCS 280-431136/4

Matrix: Water

Analysis Batch: 431136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	3.83		ug/L		77	65 - 135
1,1-Dichloroethane	5.00	3.85		ug/L		77	65 - 135
1,1-Dichloroethene	5.00	3.99		ug/L		80	65 - 136
1,2-Dichloroethane	5.00	3.95		ug/L		79	65 - 135
Methyl ethyl ketone (MEK)	20.0	17.6		ug/L		88	44 - 177
Acetone	20.0	21.0		ug/L		105	39 - 156
Benzene	5.00	3.88		ug/L		78	65 - 135
Chloroethane	5.00	4.20		ug/L		84	46 - 136
cis-1,2-Dichloroethene	5.00	4.15		ug/L		83	65 - 135
Ethylbenzene	5.00	4.48		ug/L		90	65 - 135
Methylene Chloride	5.00	4.45		ug/L		89	54 - 141
m-Xylene & p-Xylene	5.00	4.39		ug/L		88	65 - 135
o-Xylene	5.00	4.70		ug/L		94	65 - 135
Styrene	5.00	4.50		ug/L		90	65 - 135
Tetrachloroethene	5.00	4.38		ug/L		88	65 - 135
Toluene	5.00	4.25		ug/L		85	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 280-431136/4

Matrix: Water

Analysis Batch: 431136

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	5.00	4.14		ug/L		83	65 - 135
Trichloroethene	5.00	4.11		ug/L		82	65 - 135
Vinyl chloride	5.00	3.62		ug/L		72	40 - 137
Xylenes, Total	10.0	9.09		ug/L		91	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 127
4-Bromofluorobenzene (Surr)	103		78 - 120
Dibromofluoromethane (Surr)	90		77 - 120
Toluene-d8 (Surr)	102		80 - 125

Lab Sample ID: 280-114332-7 MS

Matrix: Water

Analysis Batch: 431136

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	4.19		ug/L		84	65 - 135
1,1-Dichloroethane	ND		5.00	4.39		ug/L		88	65 - 135
1,1-Dichloroethene	ND		5.00	4.66		ug/L		93	65 - 136
1,2-Dichloroethane	ND		5.00	4.45		ug/L		89	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	18.2		ug/L		91	44 - 177
Acetone	6.4	J B	20.0	25.2		ug/L		94	39 - 156
Benzene	ND		5.00	4.16		ug/L		83	65 - 135
Chloroethane	ND		5.00	5.95		ug/L		119	46 - 136
cis-1,2-Dichloroethene	ND		5.00	4.52		ug/L		90	65 - 135
Ethylbenzene	ND		5.00	4.42		ug/L		88	65 - 135
Methylene Chloride	ND		5.00	4.84		ug/L		97	54 - 141
m-Xylene & p-Xylene	ND		5.00	4.26		ug/L		85	65 - 135
o-Xylene	ND		5.00	4.57		ug/L		91	65 - 135
Styrene	ND		5.00	4.22		ug/L		84	65 - 135
Tetrachloroethene	ND		5.00	4.45		ug/L		89	65 - 135
Toluene	ND		5.00	4.33		ug/L		87	65 - 135
trans-1,2-Dichloroethene	ND		5.00	4.66		ug/L		93	65 - 135
Trichloroethene	ND		5.00	4.29		ug/L		86	65 - 135
Vinyl chloride	ND		5.00	4.83		ug/L		97	40 - 137
Xylenes, Total	ND		10.0	8.83		ug/L		88	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 127
4-Bromofluorobenzene (Surr)	103		78 - 120
Dibromofluoromethane (Surr)	94		77 - 120
Toluene-d8 (Surr)	102		80 - 125



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-114332-7 MSD

Matrix: Water

Analysis Batch: 431136

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	4.07		ug/L		81	65 - 135	3	20
1,1-Dichloroethane	ND		5.00	4.23		ug/L		85	65 - 135	4	21
1,1-Dichloroethene	ND		5.00	4.24		ug/L		85	65 - 136	9	20
1,2-Dichloroethane	ND		5.00	4.52		ug/L		90	65 - 135	2	20
Methyl ethyl ketone (MEK)	ND		20.0	18.7		ug/L		94	44 - 177	3	32
Acetone	6.4	J B	20.0	24.3		ug/L		89	39 - 156	4	23
Benzene	ND		5.00	4.12		ug/L		82	65 - 135	1	20
Chloroethane	ND		5.00	5.12		ug/L		102	46 - 136	15	25
cis-1,2-Dichloroethene	ND		5.00	4.39		ug/L		88	65 - 135	3	20
Ethylbenzene	ND		5.00	4.32		ug/L		86	65 - 135	2	20
Methylene Chloride	ND		5.00	4.78		ug/L		96	54 - 141	1	26
m-Xylene & p-Xylene	ND		5.00	4.23		ug/L		85	65 - 135	1	20
o-Xylene	ND		5.00	4.53		ug/L		91	65 - 135	1	20
Styrene	ND		5.00	4.22		ug/L		84	65 - 135	0	26
Tetrachloroethene	ND		5.00	4.47		ug/L		89	65 - 135	0	20
Toluene	ND		5.00	4.21		ug/L		84	65 - 135	3	20
trans-1,2-Dichloroethene	ND		5.00	4.52		ug/L		90	65 - 135	3	24
Trichloroethene	ND		5.00	4.18		ug/L		84	65 - 135	2	20
Vinyl chloride	ND		5.00	4.77		ug/L		95	40 - 137	1	24
Xylenes, Total	ND		10.0	8.76		ug/L		88	65 - 135	1	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	97		70 - 127								
4-Bromofluorobenzene (Surr)	104		78 - 120								
Dibromofluoromethane (Surr)	96		77 - 120								
Toluene-d8 (Surr)	105		80 - 125								

Lab Sample ID: MB 280-431297/6

Matrix: Water

Analysis Batch: 431297

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.16	ug/L			09/27/18 19:24	1
1,1-Dichloroethane	ND		1.0	0.22	ug/L			09/27/18 19:24	1
1,1-Dichloroethene	ND		1.0	0.23	ug/L			09/27/18 19:24	1
1,2-Dichloroethane	ND		1.0	0.13	ug/L			09/27/18 19:24	1
Methyl ethyl ketone (MEK)	ND		6.0	2.0	ug/L			09/27/18 19:24	1
Acetone	ND		10	1.9	ug/L			09/27/18 19:24	1
Benzene	ND		1.0	0.16	ug/L			09/27/18 19:24	1
Chloroethane	ND		2.0	0.41	ug/L			09/27/18 19:24	1
cis-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 19:24	1
Ethylbenzene	ND		1.0	0.16	ug/L			09/27/18 19:24	1
Methylene Chloride	ND		2.0	0.32	ug/L			09/27/18 19:24	1
m-Xylene & p-Xylene	ND		2.0	0.34	ug/L			09/27/18 19:24	1
o-Xylene	ND		1.0	0.19	ug/L			09/27/18 19:24	1
Styrene	ND		1.0	0.17	ug/L			09/27/18 19:24	1
Tetrachloroethene	ND		1.0	0.20	ug/L			09/27/18 19:24	1
Toluene	ND		1.0	0.17	ug/L			09/27/18 19:24	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 280-431297/6

Matrix: Water

Analysis Batch: 431297

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.15	ug/L			09/27/18 19:24	1
Trichloroethene	ND		1.0	0.16	ug/L			09/27/18 19:24	1
Vinyl chloride	ND		1.0	0.10	ug/L			09/27/18 19:24	1
Xylenes, Total	ND		2.0	0.19	ug/L			09/27/18 19:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 127		09/27/18 19:24	1
4-Bromofluorobenzene (Surr)	100		78 - 120		09/27/18 19:24	1
Dibromofluoromethane (Surr)	98		77 - 120		09/27/18 19:24	1
Toluene-d8 (Surr)	102		80 - 125		09/27/18 19:24	1

Lab Sample ID: LCS 280-431297/4

Matrix: Water

Analysis Batch: 431297

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	5.00	5.18		ug/L		104	65 - 135
1,1-Dichloroethane	5.00	5.21		ug/L		104	65 - 135
1,1-Dichloroethene	5.00	5.29		ug/L		106	65 - 136
1,2-Dichloroethane	5.00	5.31		ug/L		106	65 - 135
Methyl ethyl ketone (MEK)	20.0	21.5		ug/L		108	44 - 177
Acetone	20.0	22.9		ug/L		115	39 - 156
Benzene	5.00	5.11		ug/L		102	65 - 135
Chloroethane	5.00	5.42		ug/L		108	46 - 136
cis-1,2-Dichloroethene	5.00	5.07		ug/L		101	65 - 135
Ethylbenzene	5.00	4.95		ug/L		99	65 - 135
Methylene Chloride	5.00	5.08		ug/L		102	54 - 141
m-Xylene & p-Xylene	5.00	4.95		ug/L		99	65 - 135
o-Xylene	5.00	4.96		ug/L		99	65 - 135
Styrene	5.00	4.81		ug/L		96	65 - 135
Tetrachloroethene	5.00	4.96		ug/L		99	65 - 135
Toluene	5.00	5.06		ug/L		101	65 - 135
trans-1,2-Dichloroethene	5.00	5.20		ug/L		104	65 - 135
Trichloroethene	5.00	5.11		ug/L		102	65 - 135
Vinyl chloride	5.00	5.41		ug/L		108	40 - 137
Xylenes, Total	10.0	9.91		ug/L		99	65 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		70 - 127
4-Bromofluorobenzene (Surr)	107		78 - 120
Dibromofluoromethane (Surr)	105		77 - 120
Toluene-d8 (Surr)	109		80 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-431297/5

Matrix: Water

Analysis Batch: 431297

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	5.00	5.31		ug/L		106	65 - 135	3	20
1,1-Dichloroethane	5.00	5.28		ug/L		106	65 - 135	1	21
1,1-Dichloroethene	5.00	5.34		ug/L		107	65 - 136	1	20
1,2-Dichloroethane	5.00	5.29		ug/L		106	65 - 135	0	20
Methyl ethyl ketone (MEK)	20.0	22.5		ug/L		113	44 - 177	5	32
Acetone	20.0	22.5		ug/L		112	39 - 156	2	23
Benzene	5.00	5.17		ug/L		103	65 - 135	1	20
Chloroethane	5.00	5.51		ug/L		110	46 - 136	2	25
cis-1,2-Dichloroethene	5.00	5.23		ug/L		105	65 - 135	3	20
Ethylbenzene	5.00	5.03		ug/L		101	65 - 135	2	20
Methylene Chloride	5.00	5.25		ug/L		105	54 - 141	3	26
m-Xylene & p-Xylene	5.00	5.06		ug/L		101	65 - 135	2	20
o-Xylene	5.00	5.05		ug/L		101	65 - 135	2	20
Styrene	5.00	4.92		ug/L		98	65 - 135	2	26
Tetrachloroethene	5.00	5.00		ug/L		100	65 - 135	1	20
Toluene	5.00	5.14		ug/L		103	65 - 135	2	20
trans-1,2-Dichloroethene	5.00	5.38		ug/L		108	65 - 135	3	24
Trichloroethene	5.00	5.20		ug/L		104	65 - 135	2	20
Vinyl chloride	5.00	5.56		ug/L		111	40 - 137	3	24
Xylenes, Total	10.0	10.1		ug/L		101	65 - 135	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 127
4-Bromofluorobenzene (Surr)	104		78 - 120
Dibromofluoromethane (Surr)	102		77 - 120
Toluene-d8 (Surr)	105		80 - 125

Lab Sample ID: 280-114425-K-1 MS

Matrix: Water

Analysis Batch: 431297

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		5.00	5.22		ug/L		104	65 - 135
1,1-Dichloroethane	ND		5.00	5.74		ug/L		115	65 - 135
1,1-Dichloroethene	ND		5.00	5.05		ug/L		101	65 - 136
1,2-Dichloroethane	ND		5.00	6.19		ug/L		124	65 - 135
Methyl ethyl ketone (MEK)	ND		20.0	23.9		ug/L		120	44 - 177
Acetone	5.5	J	20.0	29.5		ug/L		120	39 - 156
Benzene	0.26	J	5.00	5.62		ug/L		107	65 - 135
Chloroethane	ND		5.00	5.48		ug/L		110	46 - 136
cis-1,2-Dichloroethene	7.0		5.00	12.4		ug/L		109	65 - 135
Ethylbenzene	ND		5.00	5.26		ug/L		105	65 - 135
Methylene Chloride	ND		5.00	5.60		ug/L		112	54 - 141
m-Xylene & p-Xylene	ND		5.00	5.24		ug/L		105	65 - 135
o-Xylene	ND		5.00	5.32		ug/L		106	65 - 135
Styrene	ND		5.00	5.25		ug/L		105	65 - 135
Tetrachloroethene	ND		5.00	4.85		ug/L		97	65 - 135
Toluene	ND		5.00	5.37		ug/L		107	65 - 135

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 280-114425-K-1 MS

Matrix: Water

Analysis Batch: 431297

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	ND		5.00	5.40		ug/L		108	65 - 135
Trichloroethene	ND		5.00	5.25		ug/L		105	65 - 135
Vinyl chloride	1.7		5.00	6.91		ug/L		104	40 - 137
Xylenes, Total	ND		10.0	10.6		ug/L		106	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		70 - 127
4-Bromofluorobenzene (Surr)	106		78 - 120
Dibromofluoromethane (Surr)	105		77 - 120
Toluene-d8 (Surr)	108		80 - 125

Lab Sample ID: 280-114425-K-1 MSD

Matrix: Water

Analysis Batch: 431297

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		5.00	5.20		ug/L		104	65 - 135	1	20
1,1-Dichloroethane	ND		5.00	5.36		ug/L		107	65 - 135	7	21
1,1-Dichloroethene	ND		5.00	5.15		ug/L		103	65 - 136	2	20
1,2-Dichloroethane	ND		5.00	5.66		ug/L		113	65 - 135	9	20
Methyl ethyl ketone (MEK)	ND		20.0	24.1		ug/L		121	44 - 177	1	32
Acetone	5.5	J	20.0	30.3		ug/L		124	39 - 156	3	23
Benzene	0.26	J	5.00	5.29		ug/L		101	65 - 135	6	20
Chloroethane	ND		5.00	5.49		ug/L		110	46 - 136	0	25
cis-1,2-Dichloroethene	7.0		5.00	11.5		ug/L		90	65 - 135	8	20
Ethylbenzene	ND		5.00	4.90		ug/L		98	65 - 135	7	20
Methylene Chloride	ND		5.00	5.14		ug/L		103	54 - 141	9	26
m-Xylene & p-Xylene	ND		5.00	4.85		ug/L		97	65 - 135	8	20
o-Xylene	ND		5.00	4.79		ug/L		96	65 - 135	10	20
Styrene	ND		5.00	4.71		ug/L		94	65 - 135	11	26
Tetrachloroethene	ND		5.00	4.72		ug/L		94	65 - 135	3	20
Toluene	ND		5.00	5.04		ug/L		101	65 - 135	6	20
trans-1,2-Dichloroethene	ND		5.00	5.12		ug/L		102	65 - 135	5	24
Trichloroethene	ND		5.00	5.14		ug/L		103	65 - 135	2	20
Vinyl chloride	1.7		5.00	7.12		ug/L		108	40 - 137	3	24
Xylenes, Total	ND		10.0	9.64		ug/L		96	65 - 135	9	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 127
4-Bromofluorobenzene (Surr)	106		78 - 120
Dibromofluoromethane (Surr)	105		77 - 120
Toluene-d8 (Surr)	108		80 - 125

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 280-430408/4

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	0.64	ug/L			09/20/18 17:56	1
Ethene	ND		5.0	0.40	ug/L			09/20/18 17:56	1
Ethane	ND		5.0	0.57	ug/L			09/20/18 17:56	1

Lab Sample ID: LCS 280-430408/2

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	73.0	70.2		ug/L		96	75 - 125
Ethene	128	142		ug/L		111	75 - 125
Ethane	137	144		ug/L		106	75 - 125

Lab Sample ID: LCSD 280-430408/3

Matrix: Water

Analysis Batch: 430408

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	73.0	64.6		ug/L		89	75 - 125	8	20
Ethene	128	129		ug/L		101	75 - 125	9	20
Ethane	137	132		ug/L		97	75 - 125	9	20

Lab Sample ID: 280-114332-7 MS

Matrix: Water

Analysis Batch: 430408

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	6.5		73.0	70.1		ug/L		87	52 - 145
Ethene	ND		128	119		ug/L		93	75 - 131
Ethane	ND		137	127		ug/L		93	75 - 125

Lab Sample ID: 280-114332-7 MSD

Matrix: Water

Analysis Batch: 430408

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	6.5		73.0	65.7		ug/L		81	52 - 145	6	20
Ethene	ND		128	113		ug/L		88	75 - 131	6	20
Ethane	ND		137	120		ug/L		88	75 - 125	6	20

Lab Sample ID: 280-114332-4 DU

Matrix: Water

Analysis Batch: 430408

Client Sample ID: AFDV-414

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Methane	ND		ND		ug/L		NC	20
Ethene	ND		ND		ug/L		NC	20
Ethane	ND		ND		ug/L		NC	20

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-429688/6

Matrix: Water

Analysis Batch: 429688

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L			09/14/18 11:16	1
Sulfate	0.262	J	5.0	0.23	mg/L			09/14/18 11:16	1

Lab Sample ID: LCS 280-429688/4

Matrix: Water

Analysis Batch: 429688

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.2		mg/L		99	90 - 110
Sulfate	100	98.7		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-429688/5

Matrix: Water

Analysis Batch: 429688

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	99.2		mg/L		99	90 - 110	0	10
Sulfate	100	98.7		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-429688/3

Matrix: Water

Analysis Batch: 429688

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.50	2.59	J	mg/L		104	50 - 150
Sulfate	2.50	2.56	J	mg/L		103	50 - 150

Lab Sample ID: 280-114332-7 MS

Matrix: Water

Analysis Batch: 429688

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	26		25.0	53.1		mg/L		107	80 - 120
Sulfate	160	B	25.0	186	4	mg/L		96	80 - 120

Lab Sample ID: 280-114332-7 MSD

Matrix: Water

Analysis Batch: 429688

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	26		25.0	53.4		mg/L		108	80 - 120	1	20
Sulfate	160	B	25.0	186	4	mg/L		97	80 - 120	0	20

Lab Sample ID: 280-114332-7 DU

Matrix: Water

Analysis Batch: 429688

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	26		26.4		mg/L		0.2	15

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-114332-7 DU

Matrix: Water

Analysis Batch: 429688

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	160	B	162		mg/L		0	15

Lab Sample ID: MB 280-429689/6

Matrix: Water

Analysis Batch: 429689

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.50	0.042	mg/L			09/14/18 11:16	1

Lab Sample ID: LCS 280-429689/4

Matrix: Water

Analysis Batch: 429689

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	5.00	4.84		mg/L		97	90 - 110

Lab Sample ID: LCSD 280-429689/5

Matrix: Water

Analysis Batch: 429689

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	5.00	4.84		mg/L		97	90 - 110	0	10

Lab Sample ID: MRL 280-429689/3

Matrix: Water

Analysis Batch: 429689

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.200	0.200	J	mg/L		100	50 - 150

Lab Sample ID: 280-114332-7 MS

Matrix: Water

Analysis Batch: 429689

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	ND		5.00	5.02		mg/L		100	80 - 120

Lab Sample ID: 280-114332-7 MSD

Matrix: Water

Analysis Batch: 429689

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	ND		5.00	5.08		mg/L		102	80 - 120	1	20

Lab Sample ID: 280-114332-7 DU

Matrix: Water

Analysis Batch: 429689

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	ND		ND		mg/L		NC	15

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: 9060 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-430832/35

Matrix: Water

Analysis Batch: 430832

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	0.16	mg/L			09/22/18 01:11	1

Lab Sample ID: MB 280-430832/4

Matrix: Water

Analysis Batch: 430832

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average	ND		1.0	0.16	mg/L			09/21/18 16:50	1

Lab Sample ID: LCS 280-430832/3

Matrix: Water

Analysis Batch: 430832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	24.6		mg/L		99	88 - 112

Lab Sample ID: LCS 280-430832/34

Matrix: Water

Analysis Batch: 430832

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	25.0	25.5		mg/L		102	88 - 112

Lab Sample ID: 280-114332-7 MS

Matrix: Water

Analysis Batch: 430832

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon - Average	2.0		25.0	27.2		mg/L		101	88 - 112

Lab Sample ID: 280-114332-7 MSD

Matrix: Water

Analysis Batch: 430832

Client Sample ID: AFDV-405

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average	2.0		25.0	27.4		mg/L		101	88 - 112	1	15

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-430188/70

Matrix: Water

Analysis Batch: 430188

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0	1.1	mg/L			09/18/18 21:43	1

TestAmerica Denver



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-430188/69  
Matrix: Water  
Analysis Batch: 430188

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	206		mg/L		103	90 - 110

Lab Sample ID: 280-114332-4 DU  
Matrix: Water  
Analysis Batch: 430188

Client Sample ID: AFDV-414  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	1.6	J	1.33	J F5	mg/L		20	10

## Method: SM 4500 S2 F - Sulfide, Total

Lab Sample ID: MB 280-430175/1  
Matrix: Water  
Analysis Batch: 430175

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		1.0	0.50	mg/L			09/19/18 10:33	1

Lab Sample ID: LCS 280-430175/2  
Matrix: Water  
Analysis Batch: 430175

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	27.6	27.8		mg/L		101	90 - 110

Lab Sample ID: 280-114332-7 MS  
Matrix: Water  
Analysis Batch: 430175

Client Sample ID: AFDV-405  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	ND		27.6	27.8		mg/L		101	90 - 110

Lab Sample ID: 280-114332-7 MSD  
Matrix: Water  
Analysis Batch: 430175

Client Sample ID: AFDV-405  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	ND		27.6	28.0		mg/L		101	90 - 110	1	10

## Method: SM3500\_FE\_D - Ferrous Iron

Lab Sample ID: MB 280-431131/5  
Matrix: Water  
Analysis Batch: 431131

Client Sample ID: Method Blank  
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	0.0424	J	0.20	0.021	mg/L			09/26/18 18:20	1



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Method: SM3500\_FE\_D - Ferrous Iron (Continued)

Lab Sample ID: LCS 280-431131/3  
Matrix: Water  
Analysis Batch: 431131

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	2.00	2.05		mg/L		103	85 - 113

Lab Sample ID: LCSD 280-431131/4  
Matrix: Water  
Analysis Batch: 431131

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	2.00	2.08		mg/L		104	85 - 113	1	10

Lab Sample ID: 280-114332-7 MS  
Matrix: Water  
Analysis Batch: 431131

Client Sample ID: AFDV-405  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ferrous Iron	0.059	J HF B	2.00	0.347	HF	mg/L		14	85 - 113

Lab Sample ID: 280-114332-7 MSD  
Matrix: Water  
Analysis Batch: 431131

Client Sample ID: AFDV-405  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ferrous Iron	0.059	J HF B	2.00	0.352	HF	mg/L		15	85 - 113	1	10

Lab Sample ID: 280-114332-7 DU  
Matrix: Water  
Analysis Batch: 431131

Client Sample ID: AFDV-405  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Ferrous Iron	0.059	J HF B	0.0545	J	mg/L			10



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## GC/MS VOA

### Analysis Batch: 431136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-2	AFDV-412	Total/NA	Water	8260B	
280-114332-2 - DL	AFDV-412	Total/NA	Water	8260B	
280-114332-3	AFDV-413	Total/NA	Water	8260B	
280-114332-3 - DL	AFDV-413	Total/NA	Water	8260B	
280-114332-4	AFDV-414	Total/NA	Water	8260B	
280-114332-5	AFDV-415	Total/NA	Water	8260B	
280-114332-6	AFDV-418	Total/NA	Water	8260B	
280-114332-7	AFDV-405	Total/NA	Water	8260B	
280-114332-8	AFDV-406	Total/NA	Water	8260B	
280-114332-9	AFDV-417	Total/NA	Water	8260B	
MB 280-431136/8	Method Blank	Total/NA	Water	8260B	
LCS 280-431136/4	Lab Control Sample	Total/NA	Water	8260B	
280-114332-7 MS	AFDV-405	Total/NA	Water	8260B	
280-114332-7 MSD	AFDV-405	Total/NA	Water	8260B	

### Analysis Batch: 431297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-1	AFDV-411	Total/NA	Water	8260B	
MB 280-431297/6	Method Blank	Total/NA	Water	8260B	
LCS 280-431297/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 280-431297/5	Lab Control Sample Dup	Total/NA	Water	8260B	
280-114425-K-1 MS	Matrix Spike	Total/NA	Water	8260B	
280-114425-K-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

## GC VOA

### Analysis Batch: 430408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-4	AFDV-414	Total/NA	Water	RSK-175	
280-114332-5	AFDV-415	Total/NA	Water	RSK-175	
280-114332-7	AFDV-405	Total/NA	Water	RSK-175	
280-114332-8	AFDV-406	Total/NA	Water	RSK-175	
MB 280-430408/4	Method Blank	Total/NA	Water	RSK-175	
LCS 280-430408/2	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-430408/3	Lab Control Sample Dup	Total/NA	Water	RSK-175	
280-114332-7 MS	AFDV-405	Total/NA	Water	RSK-175	
280-114332-7 MSD	AFDV-405	Total/NA	Water	RSK-175	
280-114332-4 DU	AFDV-414	Total/NA	Water	RSK-175	

## General Chemistry

### Analysis Batch: 429688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-4	AFDV-414	Total/NA	Water	300.0	
280-114332-5	AFDV-415	Total/NA	Water	300.0	
280-114332-7	AFDV-405	Total/NA	Water	300.0	
280-114332-8	AFDV-406	Total/NA	Water	300.0	
MB 280-429688/6	Method Blank	Total/NA	Water	300.0	
LCS 280-429688/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-429688/5	Lab Control Sample Dup	Total/NA	Water	300.0	



# QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## General Chemistry (Continued)

### Analysis Batch: 429688 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MRL 280-429688/3	Lab Control Sample	Total/NA	Water	300.0	
280-114332-7 MS	AFDV-405	Total/NA	Water	300.0	
280-114332-7 MSD	AFDV-405	Total/NA	Water	300.0	
280-114332-7 DU	AFDV-405	Total/NA	Water	300.0	

### Analysis Batch: 429689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-4	AFDV-414	Total/NA	Water	300.0	
280-114332-5	AFDV-415	Total/NA	Water	300.0	
280-114332-7	AFDV-405	Total/NA	Water	300.0	
280-114332-8	AFDV-406	Total/NA	Water	300.0	
MB 280-429689/6	Method Blank	Total/NA	Water	300.0	
LCS 280-429689/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-429689/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-429689/3	Lab Control Sample	Total/NA	Water	300.0	
280-114332-7 MS	AFDV-405	Total/NA	Water	300.0	
280-114332-7 MSD	AFDV-405	Total/NA	Water	300.0	
280-114332-7 DU	AFDV-405	Total/NA	Water	300.0	

### Analysis Batch: 430175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-4	AFDV-414	Total/NA	Water	SM 4500 S2 F	
280-114332-5	AFDV-415	Total/NA	Water	SM 4500 S2 F	
280-114332-7	AFDV-405	Total/NA	Water	SM 4500 S2 F	
280-114332-8	AFDV-406	Total/NA	Water	SM 4500 S2 F	
MB 280-430175/1	Method Blank	Total/NA	Water	SM 4500 S2 F	
LCS 280-430175/2	Lab Control Sample	Total/NA	Water	SM 4500 S2 F	
280-114332-7 MS	AFDV-405	Total/NA	Water	SM 4500 S2 F	
280-114332-7 MSD	AFDV-405	Total/NA	Water	SM 4500 S2 F	

### Analysis Batch: 430188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-4	AFDV-414	Total/NA	Water	SM 2320B	
280-114332-5	AFDV-415	Total/NA	Water	SM 2320B	
280-114332-7	AFDV-405	Total/NA	Water	SM 2320B	
280-114332-8	AFDV-406	Total/NA	Water	SM 2320B	
MB 280-430188/70	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-430188/69	Lab Control Sample	Total/NA	Water	SM 2320B	
280-114332-4 DU	AFDV-414	Total/NA	Water	SM 2320B	

### Analysis Batch: 430832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-4	AFDV-414	Total/NA	Water	9060	
280-114332-5	AFDV-415	Total/NA	Water	9060	
280-114332-7	AFDV-405	Total/NA	Water	9060	
280-114332-8	AFDV-406	Total/NA	Water	9060	
MB 280-430832/35	Method Blank	Total/NA	Water	9060	
MB 280-430832/4	Method Blank	Total/NA	Water	9060	
LCS 280-430832/3	Lab Control Sample	Total/NA	Water	9060	
LCS 280-430832/34	Lab Control Sample	Total/NA	Water	9060	
280-114332-7 MS	AFDV-405	Total/NA	Water	9060	

TestAmerica Denver



## QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

### General Chemistry (Continued)

#### Analysis Batch: 430832 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-7 MSD	AFDV-405	Total/NA	Water	9060	

#### Analysis Batch: 431131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-114332-4	AFDV-414	Total/NA	Water	SM3500_FE_D	
280-114332-5	AFDV-415	Total/NA	Water	SM3500_FE_D	
280-114332-7	AFDV-405	Total/NA	Water	SM3500_FE_D	
280-114332-8	AFDV-406	Total/NA	Water	SM3500_FE_D	
MB 280-431131/5	Method Blank	Total/NA	Water	SM3500_FE_D	
LCS 280-431131/3	Lab Control Sample	Total/NA	Water	SM3500_FE_D	
LCSD 280-431131/4	Lab Control Sample Dup	Total/NA	Water	SM3500_FE_D	
280-114332-7 MS	AFDV-405	Total/NA	Water	SM3500_FE_D	
280-114332-7 MSD	AFDV-405	Total/NA	Water	SM3500_FE_D	
280-114332-7 DU	AFDV-405	Total/NA	Water	SM3500_FE_D	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Client Sample ID: AFDV-411

Date Collected: 09/13/18 13:40

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	431297	09/27/18 20:45	MRM	TAL DEN

## Client Sample ID: AFDV-412

Date Collected: 09/13/18 13:35

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	20 mL	20 mL	431136	09/27/18 03:19	FCN	TAL DEN
Total/NA	Analysis	8260B	DL	5000	20 mL	20 mL	431136	09/27/18 03:41	FCN	TAL DEN

## Client Sample ID: AFDV-413

Date Collected: 09/13/18 13:40

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		500	20 mL	20 mL	431136	09/27/18 04:02	FCN	TAL DEN
Total/NA	Analysis	8260B	DL	5000	20 mL	20 mL	431136	09/27/18 04:23	FCN	TAL DEN

## Client Sample ID: AFDV-414

Date Collected: 09/13/18 15:00

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	431136	09/27/18 04:45	FCN	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 21:39	JLW	TAL DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	429688	09/14/18 20:28	ARM	TAL DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	429689	09/14/18 20:28	ARM	TAL DEN
Total/NA	Analysis	9060		1			430832	09/22/18 00:27	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			430188	09/18/18 21:48	SGB	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	430175	09/19/18 10:33	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	431131	09/26/18 18:20	IEU	TAL DEN

## Client Sample ID: AFDV-415

Date Collected: 09/13/18 14:30

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	431136	09/27/18 05:06	FCN	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 22:06	JLW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	429688	09/14/18 21:13	ARM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	429689	09/14/18 21:13	ARM	TAL DEN

TestAmerica Denver



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Client Sample ID: AFDV-415

Date Collected: 09/13/18 14:30

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060		1			430832	09/22/18 00:42	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			430188	09/18/18 21:58	SGB	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	430175	09/19/18 10:33	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	431131	09/26/18 18:20	IEU	TAL DEN

## Client Sample ID: AFDV-418

Date Collected: 09/13/18 15:35

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	431136	09/27/18 05:28	FCN	TAL DEN

## Client Sample ID: AFDV-405

Date Collected: 09/13/18 11:00

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	431136	09/27/18 05:49	FCN	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 22:19	JLW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	429688	09/14/18 19:00	ARM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	429689	09/14/18 19:00	ARM	TAL DEN
Total/NA	Analysis	9060		1			430832	09/21/18 21:12	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			430188	09/18/18 22:05	SGB	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	430175	09/19/18 10:33	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	431131	09/26/18 18:20	IEU	TAL DEN

## Client Sample ID: AFDV-406

Date Collected: 09/13/18 11:10

Date Received: 09/14/18 09:20

## Lab Sample ID: 280-114332-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	431136	09/27/18 06:54	FCN	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	430408	09/20/18 22:58	JLW	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	429688	09/14/18 21:35	ARM	TAL DEN
Total/NA	Analysis	300.0		1	5 mL	5 mL	429689	09/14/18 21:35	ARM	TAL DEN
Total/NA	Analysis	9060		1			430832	09/22/18 03:07	LPL	TAL DEN
Total/NA	Analysis	SM 2320B		1			430188	09/18/18 22:11	SGB	TAL DEN
Total/NA	Analysis	SM 4500 S2 F		1	200 mL	200 mL	430175	09/19/18 10:33	AWW	TAL DEN
Total/NA	Analysis	SM3500_FE_D		1	25 mL	25 mL	431131	09/26/18 18:20	IEU	TAL DEN



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

**Client Sample ID: AFDV-417**

**Date Collected: 09/13/18 15:30**

**Date Received: 09/14/18 09:20**

**Lab Sample ID: 280-114332-9**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	431136	09/27/18 07:15	FCN	TAL DEN

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

## Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E87667	06-30-19

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
300.0		Water	Chloride
300.0		Water	Nitrate as N
300.0		Water	Sulfate
9060		Water	Total Organic Carbon - Average
SM 2320B		Water	Alkalinity
SM3500_FE_D		Water	Ferrous Iron

Iowa	State Program	7	370	12-01-18
------	---------------	---	-----	----------

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,1-Trichloroethane
8260B		Water	1,1-Dichloroethane
8260B		Water	1,1-Dichloroethene
8260B		Water	1,2-Dichloroethane
8260B		Water	Acetone
8260B		Water	Benzene
8260B		Water	Chloroethane
8260B		Water	cis-1,2-Dichloroethene
8260B		Water	Ethylbenzene
8260B		Water	Methyl ethyl ketone (MEK)
8260B		Water	Methylene Chloride
8260B		Water	m-Xylene & p-Xylene
8260B		Water	o-Xylene
8260B		Water	Styrene
8260B		Water	Tetrachloroethene
8260B		Water	Toluene
8260B		Water	trans-1,2-Dichloroethene
8260B		Water	Trichloroethene
8260B		Water	Vinyl chloride
8260B		Water	Xylenes, Total
9060		Water	Total Organic Carbon - Average
RSK-175		Water	Ethane
RSK-175		Water	Ethene
RSK-175		Water	Methane
SM3500_FE_D		Water	Ferrous Iron

Oregon	NELAP	10	4025	01-08-19
--------	-------	----	------	----------

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte
9060		Water	Total Organic Carbon - Average
SM3500_FE_D		Water	Ferrous Iron



## Method Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
RSK-175	Dissolved Gases (GC)	RSK	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
9060	Organic Carbon, Total (TOC)	SW846	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 4500 S2 F	Sulfide, Total	SM	TAL DEN
SM3500_FE_D	Ferrous Iron	SM20	TAL DEN
5030B	Purge and Trap	SW846	TAL DEN

### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM20 = "Standard Methods For The Examination Of Water And Wastewater", 20th Edition."

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



# Sample Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-114332-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-114332-1	AFDV-411	Water	09/13/18 13:40	09/14/18 09:20
280-114332-2	AFDV-412	Water	09/13/18 13:35	09/14/18 09:20
280-114332-3	AFDV-413	Water	09/13/18 13:40	09/14/18 09:20
280-114332-4	AFDV-414	Water	09/13/18 15:00	09/14/18 09:20
280-114332-5	AFDV-415	Water	09/13/18 14:30	09/14/18 09:20
280-114332-6	AFDV-418	Water	09/13/18 15:35	09/14/18 09:20
280-114332-7	AFDV-405	Water	09/13/18 11:00	09/14/18 09:20
280-114332-8	AFDV-406	Water	09/13/18 11:10	09/14/18 09:20
280-114332-9	AFDV-417	Water	09/13/18 15:30	09/14/18 09:20



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 430712Lab Sample ID: STD 280-430712/12 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 09/24/18 11:47 Lab File ID: MS1\_7322.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloroethane-d4 (Surr)		Invalid Compound ID	wickhamt	09/24/18 14:15
4-Bromofluorobenzene (Surr)		Invalid Compound ID	wickhamt	09/24/18 14:15
Dibromofluoromethane (Surr)		Invalid Compound ID	wickhamt	09/24/18 14:15
Tert-butyl alcohol (2-methyl-2-propanol)		Invalid Compound ID	wickhamt	09/24/18 13:10
Toluene-d8 (Surr)		Invalid Compound ID	wickhamt	09/24/18 14:15

Lab Sample ID: STD 280-430712/13 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 09/24/18 12:07 Lab File ID: MS1\_7323.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dibromo-3-Chloropropane	12.71	Assign Peak	wickhamt	09/24/18 13:12

Lab Sample ID: STD 280-430712/18 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 09/24/18 13:48 Lab File ID: MS1\_7328.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
TBA-d9 (IS)	5.59	Assign Peak	wickhamt	09/25/18 07:40



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Analysis Batch Number: 431297Lab Sample ID: 280-114332-1 Client Sample ID: AFDV-411Date Analyzed: 09/27/18 20:45 Lab File ID: MS1\_7524.D GC Column: DB-624 (60.25 ID: 0.25 (mm))

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethylbenzene	9.86	Wrong peak	nwangumaf	09/27/18 22:47
Methyl ethyl ketone (MEK)		Invalid Compound ID	nwangumaf	09/27/18 22:46



## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Analysis Batch Number: 425296Lab Sample ID: STD 280-425296/21 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 08/08/18 13:22 Lab File ID: MS9\_3392.D GC Column: RTX-624 ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.93	Assign Peak	dobransky m	08/09/18 07:26



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 423985Lab Sample ID: IC 280-423985/10 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/27/18 18:20 Lab File ID: 07271811.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.25	Peak assignment corrected	waldorfj	07/27/18 18:32

Lab Sample ID: IC 280-423985/10 Client Sample ID: \_\_\_\_\_Date Analyzed: 07/27/18 18:20 Lab File ID: 07271811.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.62	Peak assignment corrected	waldorfj	07/27/18 18:32



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430408Lab Sample ID: MB 280-430408/4 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/20/18 17:56 Lab File ID: 09201804.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.72	Incomplete Integration	waldorfj	09/24/18 12:32

Lab Sample ID: CCV 280-430408/30 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/20/18 21:00 Lab File ID: 09201818.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.87	Incomplete Integration	waldorfj	09/21/18 08:10

Lab Sample ID: 280-114332-7 MS Client Sample ID: AFDV-405 MSDate Analyzed: 09/20/18 22:32 Lab File ID: 09201825.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.84	Peak assignment corrected	waldorfj	09/24/18 12:44

Lab Sample ID: 280-114332-7 MS Client Sample ID: AFDV-405 MSDate Analyzed: 09/20/18 22:32 Lab File ID: 09201825.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	2.52	Peak assignment corrected	waldorfj	09/24/18 12:44

Lab Sample ID: 280-114332-7 MSD Client Sample ID: AFDV-405 MSDDate Analyzed: 09/20/18 22:45 Lab File ID: 09201826.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	1.84	Peak assignment corrected	waldorfj	09/21/18 08:10



## GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Analysis Batch Number: 430408Lab Sample ID: 280-114332-7 MSD Client Sample ID: AFDV-405 MSDDate Analyzed: 09/20/18 22:45 Lab File ID: 09201826.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethene	2.51	Peak assignment corrected	waldorfj	09/21/18 08:10

Lab Sample ID: 280-114332-8 Client Sample ID: AFDV-406Date Analyzed: 09/20/18 22:58 Lab File ID: 09201827.D GC Column: Rt-Alumina KC ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.28	Peak assignment corrected	waldorfj	09/24/18 12:44

Lab Sample ID: 280-114332-8 Client Sample ID: AFDV-406Date Analyzed: 09/20/18 22:58 Lab File ID: 09201827.D GC Column: HP-Plot Q ID: 0.53 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	1.68	Peak assignment corrected	waldorfj	09/24/18 12:44



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8 Analysis Batch Number: 428352Lab Sample ID: STD 280-428352/2 IC Client Sample ID: \_\_\_\_\_Date Analyzed: 09/01/18 11:56 Lab File ID: 02.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.51	Incomplete Integration	phantl	09/04/18 17:03



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8 Analysis Batch Number: 429688Lab Sample ID: MRL 280-429688/3 Client Sample ID: \_\_\_\_\_Date Analyzed: 09/14/18 10:10 Lab File ID: 03.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.43	Incomplete Integration	phantl	09/14/18 16:31

Lab Sample ID: 280-114332-7 DU Client Sample ID: AFDV-405 DUDate Analyzed: 09/14/18 19:22 Lab File ID: 08.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.18	Incomplete Integration	mosera	09/16/18 18:27

Lab Sample ID: 280-114332-7 MS Client Sample ID: AFDV-405 MSDate Analyzed: 09/14/18 19:44 Lab File ID: 09.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.14	Incomplete Integration	mosera	09/16/18 18:28

Lab Sample ID: 280-114332-7 MSD Client Sample ID: AFDV-405 MSDDate Analyzed: 09/14/18 20:06 Lab File ID: 10.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.14	Incomplete Integration	mosera	09/16/18 18:29

Lab Sample ID: 280-114332-8 Client Sample ID: AFDV-406Date Analyzed: 09/14/18 21:35 Lab File ID: 14.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	11.17	Incomplete Integration	mosera	09/16/18 18:31



## GENERAL CHEMISTRY MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8 Analysis Batch Number: 429689Lab Sample ID: 280-114332-7 MS Client Sample ID: AFDV-405 MSDate Analyzed: 09/14/18 19:44 Lab File ID: 09.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	6.09	Peak assignment corrected	phantl	09/14/18 21:46

Lab Sample ID: 280-114332-7 MSD Client Sample ID: AFDV-405 MSDDate Analyzed: 09/14/18 20:06 Lab File ID: 10.0000.d GC Column: Ion PAC AS 17 ID: \_\_\_\_\_

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Nitrate as N	6.08	Peak assignment corrected	phantl	09/14/18 21:46



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>Alk daily lcs 00767</b>	09/20/18	09/13/18	Di Water, Lot na	1000 mL	Alk stk std_00014	4 mL	Alkalinity	200 mg/L
.Alk stk std_00014	04/30/19		Fischer, Lot 172632		(Purchased Reagent)		Alkalinity	50 g/L
<b>FE Cal INT_00503</b>	08/30/18	08/29/18	Di Water, Lot na	500 mL	FE Stock Cal_00004	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock Cal_00004	05/31/21		Hach, Lot A7142		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>FE Cal INT_00507</b>	09/27/18	09/26/18	Di Water, Lot na	500 mL	FE Stock Cal_00004	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock Cal_00004	05/31/21		Hach, Lot A7142		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>FE ICV INT_00507</b>	09/27/18	09/26/18	Di Water, Lot na	500 mL	FE Stock ICV_00002	0.3511 g	Ferrous Iron	99.9933 mg/L
.FE Stock ICV_00002	11/21/23		Fisher, Lot 136285		(Purchased Reagent)		Ferrous Iron	0.1424 g/g
<b>IC CAL cl/so4_00217</b>	09/06/18	08/31/18	Di Water, Lot na	100 mL	IC CL cal_00054	25 mL	Chloride	250 mg/L
.IC CL cal_00054	08/30/19		SPEX CertiPrep, Lot 4-101CL-2X		IC sulfatecal_00053	25 mL	Sulfate	250 mg/L
.IC sulfatecal_00053	08/30/19		SPEX CertiPrep, Lot 4-131SO4-2X		(Purchased Reagent)		Chloride	1000 mg/L
					(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00219</b>	09/19/18	09/12/18	Di Water, Lot na	100 mL	IC CL cal_00054	25 mL	Chloride	250 mg/L
.IC CL cal_00054	08/30/19		SPEX CertiPrep, Lot 4-101CL-2X		IC sulfatecal_00053	25 mL	Sulfate	250 mg/L
.IC sulfatecal_00053	08/30/19		SPEX CertiPrep, Lot 4-131SO4-2X		(Purchased Reagent)		Chloride	1000 mg/L
					(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC Cal low_00396</b>	09/06/18	08/31/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
					IC FL cal_00012	5 mL	Fluoride	50 mg/L
					IC N02 CAL_00043	5 mL	Nitrite as N	50 mg/L
					IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
					IC P04 cal_00018	5 mL	Orthophosphate as P	50 mg/L
.IC Br cal_00015	01/31/19		Ricca, Lot 4707D55		(Purchased Reagent)		Bromide	1000 mg/L
.IC FL cal_00012	10/31/18		Ricca, Lot 4704K15		(Purchased Reagent)		Fluoride	1000 mg/L
.IC N02 CAL_00043	01/31/19		RICCA, Lot 4808990		(Purchased Reagent)		Nitrite as N	1000 ppm
.IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC P04 cal_00018	11/30/19		RICCA, Lot 4711L59		(Purchased Reagent)		Orthophosphate as P	1000 mg/L
<b>IC Cal low_00399</b>	09/21/18	09/14/18	Di Water, Lot NA	100 mL	IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
.IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		(Purchased Reagent)		Nitrate as N	1000 mg/L
<b>IC ICV 5_00207</b>	09/03/18	08/28/18	Di Water, Lot na	10 mL	IC N03 ICV_00012	0.5 mL	Nitrate as N	50 mg/L
.IC N03 ICV_00012	12/31/18		ERA, Lot 140616		(Purchased Reagent)		Nitrate as N	1000 mg/L
<b>IC LCS_01342</b>	09/15/18	09/14/18	Di Water, Lot 27	200 mL	IC Cal low_00399	20 mL	Nitrate as N	5 mg/L
					IC CL cal_00054	20 mL	Chloride	100 mg/L
					IC sulfatecal_00053	20 mL	Sulfate	100 mg/L
.IC Cal low_00399	09/21/18	09/14/18	Di Water, Lot NA	100 mL	IC N03 cal_00018	5 mL	Nitrate as N	50 mg/L
..IC N03 cal_00018	11/30/18		Ricca, Lot 2705D50		(Purchased Reagent)		Nitrate as N	1000 mg/L
.IC CL cal_00054	08/30/19		SPEX CertiPrep, Lot 4-101CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
.IC sulfatecal_00053	08/30/19		SPEX CertiPrep, Lot 4-131SO4-2X		(Purchased Reagent)		Sulfate	1000 mg/L
<b>ICMS/MSD WEEK_00553</b>	09/17/18	09/10/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO_00020	5 mL	Chloride	2499.92 mg/L
							Nitrate as N	500.003 mg/L
							Sulfate	2500.26 mg/L
.IC SPK 6 ANIO_00020	10/02/18	08/16/18	Di Water, Lot NA	1000 mL	IC MS/MSD CL_00002	8.2424 g	Chloride	4999.84 mg/L
					IC MS/MSD N03_00004	6.068 g	Nitrate as N	1000.01 mg/L
					IC MS/MSD S04_00005	9.0704 g	Sulfate	5000.51 mg/L
..IC MS/MSD CL_00002	01/13/21		FISHER, Lot 091363		(Purchased Reagent)		Chloride	0.6066 g/g



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..IC MS/MSD N03_00004	10/02/18		FISHER, Lot 035600		(Purchased Reagent)		Nitrate as N	0.1648 g/g
..IC MS/MSD S04_00005	09/29/20		FISHER, Lot 147276		(Purchased Reagent)		Sulfate	0.5513 g/g
<b>MV-568718-D_00014</b>	05/31/22		RESTEK, Lot A0127975		(Purchased Reagent)		1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5	250 ug/mL
							Fluorobenzene	250 ug/mL
							TBA-d9 (IS)	5000 ug/mL
<b>MV-ARCH SS A_00101</b>	01/25/19	07/25/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00102</b>	02/09/19	08/09/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-ARCH SS A_00103</b>	02/28/19	08/28/18	P&T Methanol, Lot 177891	50 mL	MV-567650_00027	5 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
.MV-567650_00027	01/31/22		Restek, Lot A0124069		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
<b>MV-BFB_00026</b>							1,2-Dichloroethene, Total	
							1,2-Dichloroethene, Total (URS)	
							1,3-Dichloropropene, Total	
							TAH	
							Tentatively Identified Compound	
							Total BTEX	
							Trihalomethanes, Total	
							Xylenes, Total	
							Xylenes, Total (URS)	
					MV-ST5110N1_00066	1.25 mL	BFB	50 ug/mL
.MV-ST5110N1_00066	10/31/19		Ultra Scientific, Lot CH-3248Z		(Purchased Reagent)		BFB	2000 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MV-MegaMain B_00001	09/30/18	09/06/18	P&T Methanol, Lot 181124	50 mL	MV-569721.sec_00005	800 uL	Acetone	200 ug/mL
					MV-569722.sec_00005	1000 uL	Methyl ethyl ketone (MEK)	200 ug/mL
						Chloroethane	50 ug/mL	
						Vinyl chloride	50 ug/mL	
					MV-571992.sec_00001	1000 uL	1,1,1-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							Benzene	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL
							Ethylbenzene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methylene Chloride	50 ug/mL
							o-Xylene	50 ug/mL
							Styrene	50 ug/mL
							Tetrachloroethene	50 ug/mL
Toluene	50 ug/mL							
trans-1,2-Dichloroethene	50 ug/mL							
Trichloroethene	50 ug/mL							
Xylenes, Total	100 ug/mL							
.MV-569721.sec_00005	01/31/20	RESTEK, Lot A0113880			(Purchased Reagent)		Acetone	12500 ug/mL
.MV-569722.sec_00005	06/30/20	RESTEK, Lot A0128832			(Purchased Reagent)		Methyl ethyl ketone (MEK)	12500 ug/mL
							Chloroethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-571992.sec_00001	12/31/18	RESTEK, Lot A0123775			(Purchased Reagent)		1,1,1-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							Benzene	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							o-Xylene	2500 ug/mL
							Styrene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							Trichloroethene	2500 ug/mL
							Xylenes, Total	5000 ug/mL
MV-MegaMainA_00001	10/06/18	09/06/18	P&T Methanol, Lot 181124	50 mL	MV-568720_00022	750 uL	Acrolein	296.25 ug/mL
					MV-569721_00006	800 uL	2-Hexanone	200 ug/mL
							4-Methyl-2-pentanone (MIBK)	200 ug/mL
							Acetone	200 ug/mL
							Methyl ethyl ketone (MEK)	200 ug/mL
					MV-569722_00008	1000 uL	Bromomethane	50 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chloroethane	50 ug/mL
							Chloromethane	50 ug/mL
							Dichlorodifluoromethane	50 ug/mL
							Dichlorofluoromethane	50 ug/mL
							Trichlorofluoromethane	50 ug/mL
							Vinyl chloride	50 ug/mL
					MV-569723_00004	1000 uL	2-Chloroethyl vinyl ether	50 ug/mL
					MV-569724_00016	1000 uL	Vinyl acetate	100 ug/mL
					MV-569727_00007	4000 uL	Cyclohexanone	2000 ug/mL
					MV-571992_00001	1000 uL	1,1,1,2-Tetrachloroethane	50 ug/mL
							1,1,1-Trichloroethane	50 ug/mL
							1,1,2,2-Tetrachloroethane	50 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	50 ug/mL
							1,1,2-Trichloroethane	50 ug/mL
							1,1-Dichloroethane	50 ug/mL
							1,1-Dichloroethene	50 ug/mL
							1,1-Dichloropropene	50 ug/mL
							1,2,3-Trichlorobenzene	50 ug/mL
							1,2,3-Trichloropropane	50 ug/mL
							1,2,4-Trichlorobenzene	50 ug/mL
							1,2,4-Trimethylbenzene	50 ug/mL
							1,2-Dibromo-3-Chloropropane	50 ug/mL
							1,2-Dichlorobenzene	50 ug/mL
							1,2-Dichloroethane	50 ug/mL
							1,2-Dichloropropane	50 ug/mL
							1,3,5-Trimethylbenzene	50 ug/mL
							1,3-Dichlorobenzene	50 ug/mL
							1,3-Dichloropropane	50 ug/mL
							1,4-Dichlorobenzene	50 ug/mL
							1,4-Dioxane	1000 ug/mL
							2,2-Dichloropropane	50 ug/mL
							2-Chlorotoluene	50 ug/mL
							2-Methyl-2-propanol	500 ug/mL
							3-Chloro-1-propene	50 ug/mL
							4-Chlorotoluene	50 ug/mL
							4-Isopropyltoluene	50 ug/mL
							Acrylonitrile	500 ug/mL
							Benzene	50 ug/mL
							Bromobenzene	50 ug/mL
							Bromoform	50 ug/mL
							Carbon disulfide	50 ug/mL
							Carbon tetrachloride	50 ug/mL
							Chlorobenzene	50 ug/mL
							Chlorobromomethane	50 ug/mL
							Chlorodibromomethane	50 ug/mL
							Chloroform	50 ug/mL
							cis-1,2-Dichloroethene	50 ug/mL



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-1,3-Dichloropropene	50 ug/mL
							Cyclohexane	50 ug/mL
							Dibromomethane	50 ug/mL
							Dichlorobromomethane	50 ug/mL
							Ethyl ether	50 ug/mL
							Ethyl methacrylate	50 ug/mL
							Ethylbenzene	50 ug/mL
							Ethylene Dibromide	50 ug/mL
							Hexachlorobutadiene	50 ug/mL
							Hexane	50 ug/mL
							Iodomethane	50 ug/mL
							Isobutyl alcohol	1250 ug/mL
							Isopropylbenzene	50 ug/mL
							m-Xylene & p-Xylene	50 ug/mL
							Methyl acetate	100 ug/mL
							Methyl tert-butyl ether	50 ug/mL
							Methylcyclohexane	50 ug/mL
							Methylene Chloride	50 ug/mL
							n-Butylbenzene	50 ug/mL
							n-Heptane	50 ug/mL
							N-Propylbenzene	50 ug/mL
							Naphthalene	50 ug/mL
							o-Xylene	50 ug/mL
							sec-Butylbenzene	50 ug/mL
							Styrene	50 ug/mL
							tert-Butylbenzene	50 ug/mL
							Tetrachloroethene	50 ug/mL
							Tetrahydrofuran	100 ug/mL
							Toluene	50 ug/mL
							trans-1,2-Dichloroethene	50 ug/mL
							trans-1,3-Dichloropropene	50 ug/mL
							trans-1,4-Dichloro-2-butene	50 ug/mL
							Trichloroethene	50 ug/mL
.MV-568720_00022	10/31/18		RESTEK, Lot A0137497		(Purchased Reagent)		Acrolein	19750 ug/mL
.MV-569721_00006	10/31/20		RESTEK, Lot A0131486		(Purchased Reagent)		2-Hexanone	12500 ug/mL
							4-Methyl-2-pentanone (MIBK)	12500 ug/mL
							Acetone	12500 ug/mL
							Methyl ethyl ketone (MEK)	12500 ug/mL
.MV-569722_00008	10/31/20		RESTEK, Lot A0131502		(Purchased Reagent)		Bromomethane	2500 ug/mL
							Chloroethane	2500 ug/mL
							Chloromethane	2500 ug/mL
							Dichlorodifluoromethane	2500 ug/mL
							Dichlorofluoromethane	2500 ug/mL
							Trichlorofluoromethane	2500 ug/mL
							Vinyl chloride	2500 ug/mL
.MV-569723_00004	12/31/20		RESTEK, Lot A0133302		(Purchased Reagent)		2-Chloroethyl vinyl ether	2500 ug/mL
.MV-569724_00016	10/31/18		RESTEK, Lot A0137562		(Purchased Reagent)		Vinyl acetate	5000 ug/mL
.MV-569727_00007	02/29/20		RESTEK, Lot A0124672		(Purchased Reagent)		Cyclohexanone	25000 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	2500 ug/mL
							1,1,1-Trichloroethane	2500 ug/mL
							1,1,2,2-Tetrachloroethane	2500 ug/mL
							1,1,2-Trichloro-1,2,2-trifluoroethane	2500 ug/mL
							1,1,2-Trichloroethane	2500 ug/mL
							1,1-Dichloroethane	2500 ug/mL
							1,1-Dichloroethene	2500 ug/mL
							1,1-Dichloropropene	2500 ug/mL
							1,2,3-Trichlorobenzene	2500 ug/mL
							1,2,3-Trichloropropane	2500 ug/mL
							1,2,4-Trichlorobenzene	2500 ug/mL
							1,2,4-Trimethylbenzene	2500 ug/mL
							1,2-Dibromo-3-Chloropropane	2500 ug/mL
							1,2-Dichlorobenzene	2500 ug/mL
							1,2-Dichloroethane	2500 ug/mL
							1,2-Dichloropropane	2500 ug/mL
							1,3,5-Trimethylbenzene	2500 ug/mL
							1,3-Dichlorobenzene	2500 ug/mL
							1,3-Dichloropropane	2500 ug/mL
							1,4-Dichlorobenzene	2500 ug/mL
							1,4-Dioxane	5000 ug/mL
							2,2-Dichloropropane	2500 ug/mL
							2-Chlorotoluene	2500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							3-Chloro-1-propene	2500 ug/mL
							4-Chlorotoluene	2500 ug/mL
							4-Isopropyltoluene	2500 ug/mL
							Acrylonitrile	25000 ug/mL
							Benzene	2500 ug/mL
							Bromobenzene	2500 ug/mL
							Bromoform	2500 ug/mL
							Carbon disulfide	2500 ug/mL
							Carbon tetrachloride	2500 ug/mL
							Chlorobenzene	2500 ug/mL
							Chlorobromomethane	2500 ug/mL
							Chlorodibromomethane	2500 ug/mL
							Chloroform	2500 ug/mL
							cis-1,2-Dichloroethene	2500 ug/mL
							cis-1,3-Dichloropropene	2500 ug/mL
							Cyclohexane	2500 ug/mL
							Dibromomethane	2500 ug/mL
							Dichlorobromomethane	2500 ug/mL
							Ethyl ether	2500 ug/mL
							Ethyl methacrylate	2500 ug/mL
							Ethylbenzene	2500 ug/mL
							Ethylene Dibromide	2500 ug/mL
							Hexachlorobutadiene	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexane	2500 ug/mL
							Iodomethane	2500 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropylbenzene	2500 ug/mL
							m-Xylene & p-Xylene	2500 ug/mL
							Methyl acetate	5000 ug/mL
							Methyl tert-butyl ether	2500 ug/mL
							Methylcyclohexane	2500 ug/mL
							Methylene Chloride	2500 ug/mL
							n-Butylbenzene	2500 ug/mL
							n-Heptane	2500 ug/mL
							N-Propylbenzene	2500 ug/mL
							Naphthalene	2500 ug/mL
							o-Xylene	2500 ug/mL
							sec-Butylbenzene	2500 ug/mL
							Styrene	2500 ug/mL
							tert-Butylbenzene	2500 ug/mL
							Tetrachloroethene	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
							Toluene	2500 ug/mL
							trans-1,2-Dichloroethene	2500 ug/mL
							trans-1,3-Dichloropropene	2500 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
							Trichloroethene	2500 ug/mL
<b>MV-MegaMainA_00001</b>	10/06/18	09/06/18	P&T Methanol, Lot 181124	50 mL	MV-571992_00001	1000 uL	Xylenes, Total	100 ug/mL
.MV-571992_00001	12/31/18		RESTEK, Lot A0123711		(Purchased Reagent)		Xylenes, Total	5000 ug/mL
<b>MV-Supp A_00031</b>	11/20/18	06/30/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00004	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00004	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00002	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-571994_00002	240 uL	Ethanol	2400 ug/mL
					mv-VO-TAOH-5_00005	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
							Propene oxide	4000 ug/mL
							Tetrahydrothiophene	80 ug/mL
.mv-570808_00004	05/31/19		Restek, Lot A0132816		(Purchased Reagent)		1,2,3-Trimethylbenzene	2500 ug/mL
							1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00004	04/30/19		Restek, Lot A0131668		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00002	11/30/19		RESTEK, Lot A0132831		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00002	11/30/20		RESTEK, Lot A0132270		(Purchased Reagent)		Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00005	11/20/18		SPEX, Lot EN180524019		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL
<b>MV-Supp A_00032</b>	11/20/18	08/03/18	P&T Methanol, Lot 12799	10 mL	mv-570808_00004	160 uL	1,2,3-Trimethylbenzene	40 ug/mL
							1,3,5-Trichlorobenzene	40 ug/mL
							2-Chloro-1,3-butadiene	40 ug/mL
							2-Nitropropane	80 ug/mL
							Isopropyl alcohol	400 ug/mL
							Methacrylonitrile	400 ug/mL
							n-Butanol	1000 ug/mL
					mv-570809_00004	160 uL	Ethyl acetate	80 ug/mL
							Methyl methacrylate	80 ug/mL
					mv-571993_00002	160 uL	Acetonitrile	400 ug/mL
							Isopropyl ether	40 ug/mL
							Propionitrile	400 ug/mL
							Tert-amyl methyl ether	40 ug/mL
							Tert-butyl ethyl ether	40 ug/mL
					mv-571994_00002	240 uL	Ethanol	2400 ug/mL
					mv-VO-TAOH-5_00005	800 uL	cis-1,4-Dichloro-2-butene	80 ug/mL
							Ethylene oxide	4000 ug/mL
							Propene oxide	4000 ug/mL
							Tetrahydrothiophene	80 ug/mL
							1,2,3-Trimethylbenzene	2500 ug/mL
.mv-570808_00004	05/31/19		Restek, Lot A0132816		(Purchased Reagent)		1,3,5-Trichlorobenzene	2500 ug/mL
							2-Chloro-1,3-butadiene	2500 ug/mL
							2-Nitropropane	5000 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	25000 ug/mL
							n-Butanol	62500 ug/mL
.mv-570809_00004	04/30/19		Restek, Lot A0131668		(Purchased Reagent)		Ethyl acetate	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
.mv-571993_00002	11/30/19		RESTEK, Lot A0132831		(Purchased Reagent)		Acetonitrile	25000 ug/mL
							Isopropyl ether	2500 ug/mL
							Propionitrile	25000 ug/mL
							Tert-amyl methyl ether	2500 ug/mL



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Tert-butyl ethyl ether	2500 ug/mL
.mv-571994_00002	11/30/20		RESTEK, Lot A0132270		(Purchased Reagent)		Ethanol	100000 ug/mL
.mv-VO-TAOH-5_00005	11/20/18		SPEX, Lot EN180524019		(Purchased Reagent)		cis-1,4-Dichloro-2-butene	1000 ug/mL
							Ethylene oxide	50000 ug/mL
							Propene oxide	50000 ug/mL
							Tetrahydrothiophene	1000 ug/mL
RSK175methane_00006	09/30/18		Supelco Analytical, Lot 403-102900		(Purchased Reagent)		Methane	650500 ug/L
RSK7gasMathes_00020	10/13/18		Matheson, Lot 9306622072		(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
RSK7gasMathes_00021	11/17/18		Matheson, Lot 9306622291		(Purchased Reagent)		Acetylene	10667 ug/L
							Butane	23807 ug/L
							Ethane	12317 ug/L
							Ethene	11490 ug/L
							isobutylene	22984 ug/L
							Methane	6570.3 ug/L
							Propane	18064 ug/L
RSK7gasMathes_00026	04/03/20		Matheson, Lot 9308630516		(Purchased Reagent)		Ethane	12317 ug/L
							Ethene	11490 ug/L
							Methane	6570.3 ug/L
SFD CAL INT_01544	10/31/18	09/19/18	Di Water, Lot NA	500 mL	SFD CAL STK_00005	4.13485 g	Sulfide	1104 mg/L
.SFD CAL STK_00005	12/31/23		FISHER, Lot 127305		(Purchased Reagent)		Sulfide	0.1335 g/g
TOC ICV Std_00035	03/31/19		Ricca, Lot 1803K91		(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm
TOC LCS Std_00041	06/30/20		Ultra Scientific, Lot CS-2402		(Purchased Reagent)		Total Organic Carbon - Average	1000 ppm



# Method 8260B

---

Volatile Organic Compounds (GC/MS)  
by Method 8260B



FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low  
 GC Column (1): DB-624 (60. ID: 0.25 (mm))

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
AFDV-411	280-114332-1	91	88	109	104
AFDV-412	280-114332-2	97	96	103	109
AFDV-412 DL	280-114332-2 DL	97	100	105	108
AFDV-413	280-114332-3	101	99	103	111
AFDV-413 DL	280-114332-3 DL	96	100	105	110
AFDV-414	280-114332-4	96	96	103	106
AFDV-415	280-114332-5	95	98	101	108
AFDV-418	280-114332-6	92	97	104	110
AFDV-405	280-114332-7	99	98	107	110
AFDV-406	280-114332-8	97	100	106	110
AFDV-417	280-114332-9	97	98	105	108
	MB 280-431136/8	96	95	103	108
	MB 280-431297/6	98	100	102	100
	LCS 280-431136/4	90	90	102	103
	LCS 280-431297/4	105	108	109	107
	LCSD 280-431297/5	102	104	105	104
AFDV-405 MS	280-114332-7 MS	94	95	102	103
	280-114425-K-1 MS	105	112	108	106
AFDV-405 MSD	280-114332-7 MSD	96	97	105	104
	280-114425-K-1 MSD	105	113	108	106

	<u>QC LIMITS</u>
DBFM = Dibromofluoromethane (Surr)	77-120
DCA = 1,2-Dichloroethane-d4 (Surr)	70-127
TOL = Toluene-d8 (Surr)	80-125
BFB = 4-Bromofluorobenzene (Surr)	78-120

# Column to be used to flag recovery values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_5471.D  
 Lab ID: LCS 280-431136/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	3.83	77	65-135	
1,1-Dichloroethane	5.00	3.85	77	65-135	
1,1-Dichloroethene	5.00	3.99	80	65-136	
1,2-Dichloroethane	5.00	3.95	79	65-135	
Methyl ethyl ketone (MEK)	20.0	17.6	88	44-177	
Acetone	20.0	21.0	105	39-156	
Benzene	5.00	3.88	78	65-135	
Chloroethane	5.00	4.20	84	46-136	
cis-1,2-Dichloroethene	5.00	4.15	83	65-135	
Ethylbenzene	5.00	4.48	90	65-135	
Methylene Chloride	5.00	4.45	89	54-141	
m-Xylene & p-Xylene	5.00	4.39	88	65-135	
o-Xylene	5.00	4.70	94	65-135	
Styrene	5.00	4.50	90	65-135	
Tetrachloroethene	5.00	4.38	88	65-135	
Toluene	5.00	4.25	85	65-135	
trans-1,2-Dichloroethene	5.00	4.14	83	65-135	
Trichloroethene	5.00	4.11	82	65-135	
Vinyl chloride	5.00	3.62	72	40-137	
Xylenes, Total	10.0	9.09	91	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_7520.D  
 Lab ID: LCS 280-431297/4 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	5.18	104	65-135	
1,1-Dichloroethane	5.00	5.21	104	65-135	
1,1-Dichloroethene	5.00	5.29	106	65-136	
1,2-Dichloroethane	5.00	5.31	106	65-135	
Methyl ethyl ketone (MEK)	20.0	21.5	108	44-177	
Acetone	20.0	22.9	115	39-156	
Benzene	5.00	5.11	102	65-135	
Chloroethane	5.00	5.42	108	46-136	
cis-1,2-Dichloroethene	5.00	5.07	101	65-135	
Ethylbenzene	5.00	4.95	99	65-135	
Methylene Chloride	5.00	5.08	102	54-141	
m-Xylene & p-Xylene	5.00	4.95	99	65-135	
o-Xylene	5.00	4.96	99	65-135	
Styrene	5.00	4.81	96	65-135	
Tetrachloroethene	5.00	4.96	99	65-135	
Toluene	5.00	5.06	101	65-135	
trans-1,2-Dichloroethene	5.00	5.20	104	65-135	
Trichloroethene	5.00	5.11	102	65-135	
Vinyl chloride	5.00	5.41	108	40-137	
Xylenes, Total	10.0	9.91	99	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_7521.D  
 Lab ID: LCSD 280-431297/5 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	5.31	106	3	20	65-135	
1,1-Dichloroethane	5.00	5.28	106	1	21	65-135	
1,1-Dichloroethene	5.00	5.34	107	1	20	65-136	
1,2-Dichloroethane	5.00	5.29	106	0	20	65-135	
Methyl ethyl ketone (MEK)	20.0	22.5	113	5	32	44-177	
Acetone	20.0	22.5	112	2	23	39-156	
Benzene	5.00	5.17	103	1	20	65-135	
Chloroethane	5.00	5.51	110	2	25	46-136	
cis-1,2-Dichloroethene	5.00	5.23	105	3	20	65-135	
Ethylbenzene	5.00	5.03	101	2	20	65-135	
Methylene Chloride	5.00	5.25	105	3	26	54-141	
m-Xylene & p-Xylene	5.00	5.06	101	2	20	65-135	
o-Xylene	5.00	5.05	101	2	20	65-135	
Styrene	5.00	4.92	98	2	26	65-135	
Tetrachloroethene	5.00	5.00	100	1	20	65-135	
Toluene	5.00	5.14	103	2	20	65-135	
trans-1,2-Dichloroethene	5.00	5.38	108	3	24	65-135	
Trichloroethene	5.00	5.20	104	2	20	65-135	
Vinyl chloride	5.00	5.56	111	3	24	40-137	
Xylenes, Total	10.0	10.1	101	2	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_5491.D  
 Lab ID: 280-114332-7 MS Client ID: AFDV-405 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	4.19	84	65-135	
1,1-Dichloroethane	5.00	ND	4.39	88	65-135	
1,1-Dichloroethene	5.00	ND	4.66	93	65-136	
1,2-Dichloroethane	5.00	ND	4.45	89	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	18.2	91	44-177	
Acetone	20.0	6.4 J	25.2	94	39-156	
Benzene	5.00	ND	4.16	83	65-135	
Chloroethane	5.00	ND	5.95	119	46-136	
cis-1,2-Dichloroethene	5.00	ND	4.52	90	65-135	
Ethylbenzene	5.00	ND	4.42	88	65-135	
Methylene Chloride	5.00	ND	4.84	97	54-141	
m-Xylene & p-Xylene	5.00	ND	4.26	85	65-135	
o-Xylene	5.00	ND	4.57	91	65-135	
Styrene	5.00	ND	4.22	84	65-135	
Tetrachloroethene	5.00	ND	4.45	89	65-135	
Toluene	5.00	ND	4.33	87	65-135	
trans-1,2-Dichloroethene	5.00	ND	4.66	93	65-135	
Trichloroethene	5.00	ND	4.29	86	65-135	
Vinyl chloride	5.00	ND	4.83	97	40-137	
Xylenes, Total	10.0	ND	8.83	88	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_7540.D  
 Lab ID: 280-114425-K-1 MS Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	5.00	ND	5.22	104	65-135	
1,1-Dichloroethane	5.00	ND	5.74	115	65-135	
1,1-Dichloroethene	5.00	ND	5.05	101	65-136	
1,2-Dichloroethane	5.00	ND	6.19	124	65-135	
Methyl ethyl ketone (MEK)	20.0	ND	23.9	120	44-177	
Acetone	20.0	5.5 J	29.5	120	39-156	
Benzene	5.00	0.26 J	5.62	107	65-135	
Chloroethane	5.00	ND	5.48	110	46-136	
cis-1,2-Dichloroethene	5.00	7.0	12.4	109	65-135	
Ethylbenzene	5.00	ND	5.26	105	65-135	
Methylene Chloride	5.00	ND	5.60	112	54-141	
m-Xylene & p-Xylene	5.00	ND	5.24	105	65-135	
o-Xylene	5.00	ND	5.32	106	65-135	
Styrene	5.00	ND	5.25	105	65-135	
Tetrachloroethene	5.00	ND	4.85	97	65-135	
Toluene	5.00	ND	5.37	107	65-135	
trans-1,2-Dichloroethene	5.00	ND	5.40	108	65-135	
Trichloroethene	5.00	ND	5.25	105	65-135	
Vinyl chloride	5.00	1.7	6.91	104	40-137	
Xylenes, Total	10.0	ND	10.6	106	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS9\_5492.D  
 Lab ID: 280-114332-7 MSD Client ID: AFDV-405 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	4.07	81	3	20	65-135	
1,1-Dichloroethane	5.00	4.23	85	4	21	65-135	
1,1-Dichloroethene	5.00	4.24	85	9	20	65-136	
1,2-Dichloroethane	5.00	4.52	90	2	20	65-135	
Methyl ethyl ketone (MEK)	20.0	18.7	94	3	32	44-177	
Acetone	20.0	24.3	89	4	23	39-156	
Benzene	5.00	4.12	82	1	20	65-135	
Chloroethane	5.00	5.12	102	15	25	46-136	
cis-1,2-Dichloroethene	5.00	4.39	88	3	20	65-135	
Ethylbenzene	5.00	4.32	86	2	20	65-135	
Methylene Chloride	5.00	4.78	96	1	26	54-141	
m-Xylene & p-Xylene	5.00	4.23	85	1	20	65-135	
o-Xylene	5.00	4.53	91	1	20	65-135	
Styrene	5.00	4.22	84	0	26	65-135	
Tetrachloroethene	5.00	4.47	89	0	20	65-135	
Toluene	5.00	4.21	84	3	20	65-135	
trans-1,2-Dichloroethene	5.00	4.52	90	3	24	65-135	
Trichloroethene	5.00	4.18	84	2	20	65-135	
Vinyl chloride	5.00	4.77	95	1	24	40-137	
Xylenes, Total	10.0	8.76	88	1	20	65-135	

# Column to be used to flag recovery and RPD values



FORM III  
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: MS1\_7541.D  
 Lab ID: 280-114425-K-1 MSD Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
1,1,1-Trichloroethane	5.00	5.20	104	1	20	65-135	
1,1-Dichloroethane	5.00	5.36	107	7	21	65-135	
1,1-Dichloroethene	5.00	5.15	103	2	20	65-136	
1,2-Dichloroethane	5.00	5.66	113	9	20	65-135	
Methyl ethyl ketone (MEK)	20.0	24.1	121	1	32	44-177	
Acetone	20.0	30.3	124	3	23	39-156	
Benzene	5.00	5.29	101	6	20	65-135	
Chloroethane	5.00	5.49	110	0	25	46-136	
cis-1,2-Dichloroethene	5.00	11.5	90	8	20	65-135	
Ethylbenzene	5.00	4.90	98	7	20	65-135	
Methylene Chloride	5.00	5.14	103	9	26	54-141	
m-Xylene & p-Xylene	5.00	4.85	97	8	20	65-135	
o-Xylene	5.00	4.79	96	10	20	65-135	
Styrene	5.00	4.71	94	11	26	65-135	
Tetrachloroethene	5.00	4.72	94	3	20	65-135	
Toluene	5.00	5.04	101	6	20	65-135	
trans-1,2-Dichloroethene	5.00	5.12	102	5	24	65-135	
Trichloroethene	5.00	5.14	103	2	20	65-135	
Vinyl chloride	5.00	7.12	108	3	24	40-137	
Xylenes, Total	10.0	9.64	96	9	20	65-135	

# Column to be used to flag recovery and RPD values



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_5472.D Lab Sample ID: MB 280-431136/8  
 Matrix: Water Heated Purge: (Y/N) Y  
 Instrument ID: VMS\_MS9 Date Analyzed: 09/26/2018 23:20  
 GC Column: RTX-624 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-431136/4	MS9_5471.D	09/26/2018 22:59
AFDV-412	280-114332-2	MS9_5483.D	09/27/2018 03:19
AFDV-412 DL	280-114332-2 DL	MS9_5484.D	09/27/2018 03:41
AFDV-413	280-114332-3	MS9_5485.D	09/27/2018 04:02
AFDV-413 DL	280-114332-3 DL	MS9_5486.D	09/27/2018 04:23
AFDV-414	280-114332-4	MS9_5487.D	09/27/2018 04:45
AFDV-415	280-114332-5	MS9_5488.D	09/27/2018 05:06
AFDV-418	280-114332-6	MS9_5489.D	09/27/2018 05:28
AFDV-405	280-114332-7	MS9_5490.D	09/27/2018 05:49
AFDV-405 MS	280-114332-7 MS	MS9_5491.D	09/27/2018 06:10
AFDV-405 MSD	280-114332-7 MSD	MS9_5492.D	09/27/2018 06:32
AFDV-406	280-114332-8	MS9_5493.D	09/27/2018 06:54
AFDV-417	280-114332-9	MS9_5494.D	09/27/2018 07:15



FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS1\_7522.D Lab Sample ID: MB 280-431297/6  
Matrix: Water Heated Purge: (Y/N) N  
Instrument ID: VMS\_MS1 Date Analyzed: 09/27/2018 19:24  
GC Column: DB-624 (60.25) ID: 0.25 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-431297/4	MS1_7520.D	09/27/2018 18:44
	LCSD 280-431297/5	MS1_7521.D	09/27/2018 19:04
AFDV-411	280-114332-1	MS1_7524.D	09/27/2018 20:45
	280-114425-K-1 MS	MS1_7540.D	09/28/2018 02:10
	280-114425-K-1 MSD	MS1_7541.D	09/28/2018 02:31



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_5072.D BFB Injection Date: 08/02/2018  
 Instrument ID: VMS\_MS1 BFB Injection Time: 07:34  
 Analysis Batch No.: 424541

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.1
75	30.0 - 60.0 % of mass 95	49.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.7
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	74.3
175	5.0 - 9.0 % of mass 174	5.9 (7.9) 1
176	95.0 - 101.0 % of mass 174	72.7 (97.9) 1
177	5.0 - 9.0 % of mass 176	5.7 (7.8) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD01 280-424541/20	MS1_5084.D	08/02/2018	11:55
	STD02 280-424541/21	MS1_5085.D	08/02/2018	12:15
	STD05 280-424541/22	MS1_5086.D	08/02/2018	12:36
	ICIS 280-424541/23	MS1_5087.D	08/02/2018	12:56
	STD30 280-424541/24	MS1_5088.D	08/02/2018	13:16
	STD60 280-424541/25	MS1_5089.D	08/02/2018	13:37
	ICV 280-424541/26	MS1_5091.D	08/02/2018	14:17



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_7319.D BFB Injection Date: 09/24/2018  
 Instrument ID: VMS\_MS1 BFB Injection Time: 10:24  
 Analysis Batch No.: 430712

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.5
75	30.0 - 60.0 % of mass 95	50.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.5
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	69.6
175	5.0 - 9.0 % of mass 174	5.4 (7.7) 1
176	95.0 - 101.0 % of mass 174	69.1 (99.2) 1
177	5.0 - 9.0 % of mass 176	4.9 (7.0) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD 280-430712/12	MS1_7322.D	09/24/2018	11:47
	STD 280-430712/13	MS1_7323.D	09/24/2018	12:07
	STD 280-430712/14	MS1_7324.D	09/24/2018	12:27
	STD 280-430712/15	MS1_7325.D	09/24/2018	12:48
	ICIS 280-430712/16	MS1_7326.D	09/24/2018	13:08
	STD 280-430712/17	MS1_7327.D	09/24/2018	13:28
	STD 280-430712/18	MS1_7328.D	09/24/2018	13:48
	ICV 280-430712/19	MS1_7330.D	09/24/2018	14:29
	ICV 280-430712/25	MS1_7338.D	09/24/2018	18:23



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS1\_7517.D BFB Injection Date: 09/27/2018  
 Instrument ID: VMS\_MS1 BFB Injection Time: 17:13  
 Analysis Batch No.: 431297

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	19.5
75	30.0 - 60.0 % of mass 95	51.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.4
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	67.7
175	5.0 - 9.0 % of mass 174	4.9 (7.2) 1
176	95.0 - 101.0 % of mass 174	65.2 (96.3) 1
177	5.0 - 9.0 % of mass 176	4.8 (7.3) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-431297/2	MS1_7518.D	09/27/2018	17:45
	CCV 280-431297/3	MS1_7519.D	09/27/2018	18:23
	LCS 280-431297/4	MS1_7520.D	09/27/2018	18:44
	LCSD 280-431297/5	MS1_7521.D	09/27/2018	19:04
	MB 280-431297/6	MS1_7522.D	09/27/2018	19:24
AFDV-411	280-114332-1	MS1_7524.D	09/27/2018	20:45
	280-114425-K-1 MS	MS1_7540.D	09/28/2018	02:10
	280-114425-K-1 MSD	MS1_7541.D	09/28/2018	02:31



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_3380.D BFB Injection Date: 08/08/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 09:00  
 Analysis Batch No.: 425296

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	20.2
75	30.0 - 60.0 % of mass 95	48.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	6.8
173	Less than 2.0 % of mass 174	0.4 (0.5) 1
174	50.0 - 120.00 % of mass 95	86.5
175	5.0 - 9.0 % of mass 174	6.2 (7.2) 1
176	95.0 - 101.0 % of mass 174	84.9 (98.1) 1
177	5.0 - 9.0 % of mass 176	5.1 (6.0) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD 280-425296/20	MS9_3391.D	08/08/2018	13:00
	STD 280-425296/21	MS9_3392.D	08/08/2018	13:22
	STD 280-425296/22	MS9_3393.D	08/08/2018	13:43
	ICIS 280-425296/23	MS9_3394.D	08/08/2018	14:05
	STD 280-425296/24	MS9_3395.D	08/08/2018	14:27
	STD 280-425296/25	MS9_3396.D	08/08/2018	14:48
	ICV 280-425296/26	MS9_3398.D	08/08/2018	15:31



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_4819.D BFB Injection Date: 09/13/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 13:12  
 Analysis Batch No.: 429583

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	22.2
75	30.0 - 60.0 % of mass 95	54.1
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.3
173	Less than 2.0 % of mass 174	0.4 (0.5) 1
174	50.0 - 120.00 % of mass 95	89.4
175	5.0 - 9.0 % of mass 174	7.5 (8.4) 1
176	95.0 - 101.0 % of mass 174	85.1 (95.2) 1
177	5.0 - 9.0 % of mass 176	7.0 (8.3) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 280-429583/12	MS9_4822.D	09/13/2018	14:16
	IC 280-429583/13	MS9_4823.D	09/13/2018	14:38
	IC 280-429583/14	MS9_4824.D	09/13/2018	15:00
	IC 280-429583/15	MS9_4825.D	09/13/2018	15:22
	ICIS 280-429583/16	MS9_4826.D	09/13/2018	15:44
	IC 280-429583/17	MS9_4827.D	09/13/2018	16:05
	IC 280-429583/18	MS9_4828.D	09/13/2018	16:27



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: MS9\_4868.D BFB Injection Date: 09/14/2018  
 Instrument ID: VMS\_MS9 BFB Injection Time: 09:32  
 Analysis Batch No.: 429695

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	25.2
75	30.0 - 60.0 % of mass 95	56.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	8.1
173	Less than 2.0 % of mass 174	0.9 (1.0) 1
174	50.0 - 120.00 % of mass 95	87.1
175	5.0 - 9.0 % of mass 174	7.4 (8.5) 1
176	95.0 - 101.0 % of mass 174	84.3 (96.8) 1
177	5.0 - 9.0 % of mass 176	6.9 (8.2) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICV 280-429695/12	MS9_4871.D	09/14/2018	10:39



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab File ID: MS9\_5466.D BFB Injection Date: 09/26/2018  
Instrument ID: VMS\_MS9 BFB Injection Time: 20:37  
Analysis Batch No.: 431136

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0 % of mass 95	21.6
75	30.0 - 60.0 % of mass 95	53.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0 % of mass 95	7.8
173	Less than 2.0 % of mass 174	0.0 (0.0) 1
174	50.0 - 120.00 % of mass 95	89.6
175	5.0 - 9.0 % of mass 174	7.8 (8.7) 1
176	95.0 - 101.0 % of mass 174	86.3 (96.3) 1
177	5.0 - 9.0 % of mass 176	6.5 (7.5) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-431136/3	MS9_5469.D	09/26/2018	21:57
	CCV 280-431136/2	MS9_5470.D	09/26/2018	22:19
	LCS 280-431136/4	MS9_5471.D	09/26/2018	22:59
	MB 280-431136/8	MS9_5472.D	09/26/2018	23:20
AFDV-412	280-114332-2	MS9_5483.D	09/27/2018	03:19
AFDV-412 DL	280-114332-2 DL	MS9_5484.D	09/27/2018	03:41
AFDV-413	280-114332-3	MS9_5485.D	09/27/2018	04:02
AFDV-413 DL	280-114332-3 DL	MS9_5486.D	09/27/2018	04:23
AFDV-414	280-114332-4	MS9_5487.D	09/27/2018	04:45
AFDV-415	280-114332-5	MS9_5488.D	09/27/2018	05:06
AFDV-418	280-114332-6	MS9_5489.D	09/27/2018	05:28
AFDV-405	280-114332-7	MS9_5490.D	09/27/2018	05:49
AFDV-405 MS	280-114332-7 MS	MS9_5491.D	09/27/2018	06:10
AFDV-405 MSD	280-114332-7 MSD	MS9_5492.D	09/27/2018	06:32
AFDV-406	280-114332-8	MS9_5493.D	09/27/2018	06:54
AFDV-417	280-114332-9	MS9_5494.D	09/27/2018	07:15



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-424541/23 Date Analyzed: 08/02/2018 12:56  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_5087.D Heated Purge: (Y/N) N  
 Calibration ID: 33279

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	201981	5.60	2198487	7.53	442983	9.79	
UPPER LIMIT	403962	6.10	4396974	8.03	885966	10.29	
LOWER LIMIT	100991	5.10	1099244	7.03	221492	9.29	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-424541/26		204330	5.59	2158753	7.53	435634	9.79

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Sample No.: ICIS 280-424541/23 Date Analyzed: 08/02/2018 12:56  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
Lab File ID (Standard): MS1\_5087.D Heated Purge: (Y/N) N  
Calibration ID: 33279

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	615228	11.60				
UPPER LIMIT	1230456	12.10				
LOWER LIMIT	307614	11.10				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-424541/26		604764	11.60			

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-430712/16 Date Analyzed: 09/24/2018 13:08  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_7326.D Heated Purge: (Y/N) N  
 Calibration ID: 33807

	TBA <sub>d</sub> 9		FB		CBN <sub>Zd</sub> 5	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	180848	5.58	1923787	7.53	389097	9.79
UPPER LIMIT	361696	6.08	3847574	8.03	778194	10.29
LOWER LIMIT	90424	5.08	961894	7.03	194549	9.29
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-430712/19		189468	5.59	1944178	7.53	391581 9.79
ICV 280-430712/25		191122	5.58	1840382	7.53	372312 9.79
CCV 280-431297/2		204563	5.58	2084590	7.53	420589 9.79
CCV 280-431297/3		189194	5.58	2003916	7.53	409058 9.79
LCS 280-431297/4		215412	5.58	2178404	7.53	443909 9.79
LCSD 280-431297/5		225572	5.58	2169191	7.53	441551 9.79
MB 280-431297/6		215827	5.58	2217265	7.53	454221 9.79
280-114332-1	AFDV-411	119469	5.57	1920415	7.53	367543 9.79
280-114425-K-1 MS		203605	5.59	1942701	7.53	392694 9.79
280-114425-K-1 MSD		212050	5.59	1919002	7.53	390059 9.79

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-430712/16 Date Analyzed: 09/24/2018 13:08  
 Instrument ID: VMS\_MS1 GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 Lab File ID (Standard): MS1\_7326.D Heated Purge: (Y/N) N  
 Calibration ID: 33807

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		538887	11.60				
UPPER LIMIT		1077774	12.10				
LOWER LIMIT		269444	11.10				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-430712/19		545606	11.60				
ICV 280-430712/25		520082	11.60				
CCV 280-431297/2		573641	11.60				
CCV 280-431297/3		543294	11.60				
LCS 280-431297/4		609107	11.60				
LCSD 280-431297/5		608917	11.60				
MB 280-431297/6		606447	11.60				
280-114332-1	AFDV-411	461522	11.60				
280-114425-K-1 MS		544806	11.60				
280-114425-K-1 MSD		540807	11.60				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-425296/23 Date Analyzed: 08/08/2018 14:05  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_3394.D Heated Purge: (Y/N) Y  
 Calibration ID: 33331

	TBAd9		FB		CBNZd5		
	AREA #	RT #	AREA #	RT #	AREA #	RT #	
INITIAL CALIBRATION MID-POINT	127005	5.51	1161748	7.30	248619	9.63	
UPPER LIMIT	254010	6.01	2323496	7.80	497238	10.13	
LOWER LIMIT	63503	5.01	580874	6.80	124310	9.13	
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-425296/26		115885	5.53	1098782	7.30	223582	9.63

TBA<sub>d</sub>9 = TBA-d<sub>9</sub> (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d<sub>5</sub>

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Sample No.: ICIS 280-425296/23 Date Analyzed: 08/08/2018 14:05  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
Lab File ID (Standard): MS9\_3394.D Heated Purge: (Y/N) Y  
Calibration ID: 33331

	DCBd4					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT	358182	11.77				
UPPER LIMIT	716364	12.27				
LOWER LIMIT	179091	11.27				
LAB SAMPLE ID	CLIENT SAMPLE ID					
ICV 280-425296/26		338846	11.77			

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-429583/16 Date Analyzed: 09/13/2018 15:44  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_4826.D Heated Purge: (Y/N) Y  
 Calibration ID: 33683

		TBAd9		FB		CBNZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		264331	5.52	1714768	7.30	478305	9.63
UPPER LIMIT		528662	6.02	3429536	7.80	956610	10.13
LOWER LIMIT		132166	5.02	857384	6.80	239153	9.13
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-429695/12		184272	5.52	1428498	7.30	406866	9.63
CCV 280-431136/3		262420	5.52	2081625	7.30	566012	9.63
CCV 280-431136/2		229535	5.52	2096305	7.30	564287	9.63
LCS 280-431136/4		244191	5.52	2078018	7.31	566495	9.64
MB 280-431136/8		247357	5.52	1944688	7.30	546739	9.63
280-114332-2	AFDV-412	204139	5.52	1884985	7.30	482907	9.63
280-114332-2 DL	AFDV-412 DL	190195	5.53	1673654	7.30	447309	9.63
280-114332-3	AFDV-413	185611	5.51	1832058	7.30	493760	9.63
280-114332-3 DL	AFDV-413 DL	167088	5.52	1607088	7.30	428590	9.63
280-114332-4	AFDV-414	193346	5.52	1748236	7.30	468782	9.63
280-114332-5	AFDV-415	177744	5.52	1641679	7.30	459012	9.63
280-114332-6	AFDV-418	162407	5.51	1647964	7.30	453474	9.63
280-114332-7	AFDV-405	198294	5.51	1750437	7.30	472167	9.63
280-114332-7 MS	AFDV-405 MS	208359	5.51	1797615	7.30	483874	9.63
280-114332-7 MSD	AFDV-405 MSD	212371	5.52	1812084	7.30	476017	9.63
280-114332-8	AFDV-406	194077	5.52	1754152	7.30	469555	9.63
280-114332-9	AFDV-417	192091	5.52	1739853	7.30	470379	9.63

TBA<sub>d</sub>9 = TBA-d9 (IS)

FB = Fluorobenzene

CBN<sub>Zd</sub>5 = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit = ± 0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: ICIS 280-429583/16 Date Analyzed: 09/13/2018 15:44  
 Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm)  
 Lab File ID (Standard): MS9\_4826.D Heated Purge: (Y/N) Y  
 Calibration ID: 33683

		DCBd4					
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		820046	11.78				
UPPER LIMIT		1640092	12.28				
LOWER LIMIT		410023	11.28				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-429695/12		672941	11.77				
CCV 280-431136/3		854923	11.77				
CCV 280-431136/2		907164	11.77				
LCS 280-431136/4		877139	11.78				
MB 280-431136/8		801997	11.77				
280-114332-2	AFDV-412	717138	11.77				
280-114332-2 DL	AFDV-412 DL	655951	11.77				
280-114332-3	AFDV-413	729665	11.77				
280-114332-3 DL	AFDV-413 DL	623676	11.77				
280-114332-4	AFDV-414	702929	11.77				
280-114332-5	AFDV-415	665477	11.77				
280-114332-6	AFDV-418	654278	11.77				
280-114332-7	AFDV-405	681604	11.77				
280-114332-7 MS	AFDV-405 MS	766563	11.77				
280-114332-7 MSD	AFDV-405 MSD	761925	11.77				
280-114332-8	AFDV-406	677937	11.77				
280-114332-9	AFDV-417	708010	11.77				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
 RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-411</u>	Lab Sample ID: <u>280-114332-1</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_7524.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 13:40</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 20:45</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431297</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	21		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	1.7		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	2.3		1.0	0.16
75-00-3	Chloroethane	32		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	24		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.68	J	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	39		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		70-127
460-00-4	4-Bromofluorobenzene (Surr)	104		78-120
1868-53-7	Dibromofluoromethane (Surr)	91		77-120
2037-26-5	Toluene-d8 (Surr)	109		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-412</u>	Lab Sample ID: <u>280-114332-2</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5483.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 13:35</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 03:19</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>500</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	17000	E	500	80
75-34-3	1,1-Dichloroethane	4900		500	110
75-35-4	1,1-Dichloroethene	930		500	120
107-06-2	1,2-Dichloroethane	73	J	500	65
78-93-3	Methyl ethyl ketone (MEK)	ND		3000	1000
67-64-1	Acetone	3300	J B	5000	950
71-43-2	Benzene	96	J	500	80
75-00-3	Chloroethane	ND		1000	210
156-59-2	cis-1,2-Dichloroethene	43000	E	500	75
100-41-4	Ethylbenzene	1800		500	80
75-09-2	Methylene Chloride	93000	E B	1000	160
179601-23-1	m-Xylene & p-Xylene	2700		1000	170
95-47-6	o-Xylene	1000		500	95
100-42-5	Styrene	ND		500	85
127-18-4	Tetrachloroethene	220	J	500	100
108-88-3	Toluene	15000	E	500	85
156-60-5	trans-1,2-Dichloroethene	130	J	500	75
79-01-6	Trichloroethene	280	J	500	80
75-01-4	Vinyl chloride	20000	E	500	50
1330-20-7	Xylenes, Total	3700		1000	95

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-127
460-00-4	4-Bromofluorobenzene (Surr)	109		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-412 DL Lab Sample ID: 280-114332-2 DL  
 Matrix: Water Lab File ID: MS9\_5484.D  
 Analysis Method: 8260B Date Collected: 09/13/2018 13:35  
 Sample wt/vol: 20 (mL) Date Analyzed: 09/27/2018 03:41  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 5000  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 431136 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	19000		5000	800
156-59-2	cis-1,2-Dichloroethene	51000		5000	750
75-09-2	Methylene Chloride	120000	B	10000	1600
108-88-3	Toluene	19000		5000	850
75-01-4	Vinyl chloride	24000		5000	500

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-413</u>	Lab Sample ID: <u>280-114332-3</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5485.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 13:40</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 04:02</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>500</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	18000	E	500	80
75-34-3	1,1-Dichloroethane	4900		500	110
75-35-4	1,1-Dichloroethene	890		500	120
107-06-2	1,2-Dichloroethane	80	J	500	65
78-93-3	Methyl ethyl ketone (MEK)	ND		3000	1000
67-64-1	Acetone	3100	J B	5000	950
71-43-2	Benzene	97	J	500	80
75-00-3	Chloroethane	ND		1000	210
156-59-2	cis-1,2-Dichloroethene	44000	E	500	75
100-41-4	Ethylbenzene	1700		500	80
75-09-2	Methylene Chloride	96000	E B	1000	160
179601-23-1	m-Xylene & p-Xylene	2600		1000	170
95-47-6	o-Xylene	1000		500	95
100-42-5	Styrene	ND		500	85
127-18-4	Tetrachloroethene	210	J	500	100
108-88-3	Toluene	15000	E	500	85
156-60-5	trans-1,2-Dichloroethene	130	J	500	75
79-01-6	Trichloroethene	270	J	500	80
75-01-4	Vinyl chloride	20000	E	500	50
1330-20-7	Xylenes, Total	3600		1000	95

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		70-127
460-00-4	4-Bromofluorobenzene (Surr)	111		78-120
1868-53-7	Dibromofluoromethane (Surr)	101		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Client Sample ID: AFDV-413 DL Lab Sample ID: 280-114332-3 DL

Matrix: Water Lab File ID: MS9\_5486.D

Analysis Method: 8260B Date Collected: 09/13/2018 13:40

Sample wt/vol: 20 (mL) Date Analyzed: 09/27/2018 04:23

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 5000

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 431136 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	21000		5000	800
156-59-2	cis-1,2-Dichloroethene	52000		5000	750
75-09-2	Methylene Chloride	120000	B	10000	1600
108-88-3	Toluene	19000		5000	850
75-01-4	Vinyl chloride	26000		5000	500

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	110		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-414</u>	Lab Sample ID: <u>280-114332-4</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5487.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 15:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 04:45</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	8.4	J B	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	0.53	J	1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	1.0	J	2.0	0.34
95-47-6	o-Xylene	0.63	J	1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	1.6	J	2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	96		70-127
460-00-4	4-Bromofluorobenzene (Surr)	106		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-415</u>	Lab Sample ID: <u>280-114332-5</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5488.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 14:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 05:06</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	7.7	J B	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	0.48	J	1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	0.95	J	2.0	0.34
95-47-6	o-Xylene	0.59	J	1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	1.5	J	2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	95		77-120
2037-26-5	Toluene-d8 (Surr)	101		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-418</u>	Lab Sample ID: <u>280-114332-6</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5489.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 15:35</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 05:28</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	5.0	J B	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		70-127
460-00-4	4-Bromofluorobenzene (Surr)	110		78-120
1868-53-7	Dibromofluoromethane (Surr)	92		77-120
2037-26-5	Toluene-d8 (Surr)	104		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-405</u>	Lab Sample ID: <u>280-114332-7</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5490.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 11:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 05:49</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	6.4	J B	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	110		78-120
1868-53-7	Dibromofluoromethane (Surr)	99		77-120
2037-26-5	Toluene-d8 (Surr)	107		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-406</u>	Lab Sample ID: <u>280-114332-8</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5493.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 11:10</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 06:54</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	8.7	J B	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	110		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	106		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-417</u>	Lab Sample ID: <u>280-114332-9</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5494.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 15:30</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 07:15</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	5.8	J B	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	97		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 424541

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2018 11:55 Calibration End Date: 08/02/2018 13:37 Calibration ID: 33279

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-424541/20	MS1_5084.D
Level 2	STD02 280-424541/21	MS1_5085.D
Level 3	STD05 280-424541/22	MS1_5086.D
Level 4	ICIS 280-424541/23	MS1_5087.D
Level 5	STD30 280-424541/24	MS1_5088.D
Level 6	STD60 280-424541/25	MS1_5089.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethanol	0.1761 0.1732	0.1947	0.1836	0.1794	0.1635	Ave		0.1784				5.9		15.0			
Propene oxide	0.0127 0.0126	0.0133	0.0137	0.0142	0.0131	Ave		0.0133				4.6		15.0			
2-Propanol	1.1357 0.9564	1.1385	1.0370	0.9929	0.9104	Ave		1.0285				9.1		15.0			
Acetonitrile	0.0097 0.0095	0.0106	0.0095	0.0096	0.0091	Ave		0.0097				5.1		15.0			
Di-isopropyl ether (DIPE)	0.1730 0.1936	0.1833	0.1866	0.1879	0.1799	Ave		0.1841				3.9		15.0			
Chloroprene	0.4613 0.4653	0.4725	0.4817	0.4267	0.4397	Ave		0.4579				4.5		15.0			
Tert-butyl ethyl ether	0.4749 0.5210	0.4903	0.5101	0.5098	0.4872	Ave		0.4989				3.5		15.0			
Ethyl acetate	0.0890 0.0732	0.0758	0.0755	0.0726	0.0701	Ave		0.0760				8.8		15.0			
Propionitrile	0.0098 0.0109	0.0109	0.0109	0.0107	0.0103	Ave		0.0106				4.1		15.0			
Methacrylonitrile	0.0528 0.0487	0.0510	0.0507	0.0514	0.0483	Ave		0.0505				3.4		15.0			
Tert-amyl methyl ether	0.3396 0.4012	0.3483	0.3750	0.3811	0.3710	Ave		0.3694				6.1		15.0			
n-Butanol	1.0534 0.4667	0.7774	0.5045	0.4699	0.4194	Lin2	16.198	0.4154							0.9910		0.9900
Methyl methacrylate	0.0191 0.0267	0.0224	0.0236	0.0243	0.0244	Ave		0.0234				10.8		15.0			
2-Nitropropane	0.0122 0.0159	0.0129	0.0134	0.0143	0.0145	Ave		0.0139				9.6		15.0			
Tetrahydrothiophene	+++++ 0.0281	0.0228	0.0249	0.0246	0.0246	Ave		0.0250				7.8		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 424541  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 08/02/2018 11:55 Calibration End Date: 08/02/2018 13:37 Calibration ID: 33279

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
cis-1,4-Dichloro-2-butene	0.0666 0.0814	0.0680	0.0718	0.0748	0.0751	Ave		0.0730				7.4		15.0			
1,2,3-Trimethylbenzene	3.5072 3.5102	3.5992	3.6257	3.5036	3.3945	Ave		3.5234				2.3		15.0			
1,3,5-Trichlorobenzene	1.3836 1.5292	1.4471	1.4232	1.3712	1.3736	Ave		1.4213				4.3		15.0			
Dibromofluoromethane (Surr)	0.2283 0.2184	0.2188	0.2082	0.2141	0.2083	Ave		0.2160				3.5		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2001 0.1770	0.1912	0.1799	0.1803	0.1726	Ave		0.1835				5.6		15.0			
Toluene-d8 (Surr)	5.3744 4.5645	5.0531	4.6361	4.6967	4.5442	Ave		4.8115				6.9		15.0			
4-Bromofluorobenzene (Surr)	1.2428 1.1066	1.1602	1.0758	1.0665	1.0507	Ave		1.1171				6.5		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 424541

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2018 11:55 Calibration End Date: 08/02/2018 13:37 Calibration ID: 33279

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD01 280-424541/20	MS1_5084.D
Level 2	STD02 280-424541/21	MS1_5085.D
Level 3	STD05 280-424541/22	MS1_5086.D
Level 4	ICIS 280-424541/23	MS1_5087.D
Level 5	STD30 280-424541/24	MS1_5088.D
Level 6	STD60 280-424541/25	MS1_5089.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethanol	TBAd 9	Ave	7876 521255	16598	44942	86986	239384	60.0 3600	120	300	600	1800
Propene oxide	FB	Ave	217253 13322770	455271	1200509	2494080	6890500	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Ave	8468 479753	16176	42304	80218	222176	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	16579 1006766	36113	83525	168947	475795	10.0 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	29611 2053371	62657	164088	330511	944084	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	78937 4935095	161516	423473	750446	2307309	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	81263 5526566	167600	448448	896554	2556087	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	30469 1552943	51805	132681	255301	735645	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	16819 1155098	37155	95680	189066	539219	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	90296 5163340	174367	445708	903897	2531824	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	58110 4255749	119060	329720	670325	1946776	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Lin2	19635 585244	27613	51457	94916	255873	25.0 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	6544 566315	15342	41466	85370	255604	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Ave	4161 338106	8831	23572	50306	152333	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	+++++ 120809	3106	8740	17446	52212	+++++ 120	4.00	10.0	20.0	60.0
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	6258 488257	12662	34897	73667	220875	2.00 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 424541

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 08/02/2018 11:55 Calibration End Date: 08/02/2018 13:37 Calibration ID: 33279

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
1,2,3-Trimethylbenzene	DCBd 4	Ave	164753 10529378	334872	881111	1724400	4990319	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	64997 4587055	134637	345854	674856	2019354	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	39061 2316592	74790	183009	376542	1092910	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	34250 1876880	65375	158176	317167	905428	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	183279 9802890	344888	813774	1664432	4817041	1.00 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	58379 3319369	107948	261441	524912	1544602	1.00 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD

Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-430712/12	MS1_7322.D
Level 2	STD 280-430712/13	MS1_7323.D
Level 3	STD 280-430712/14	MS1_7324.D
Level 4	STD 280-430712/15	MS1_7325.D
Level 5	ICIS 280-430712/16	MS1_7326.D
Level 6	STD 280-430712/17	MS1_7327.D
Level 7	STD 280-430712/18	MS1_7328.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	+++++ 0.3547	0.2961 0.3590	0.2509	0.4025	0.3997	Lin1	-0.072	0.3650							0.9950		0.9900
Chloromethane	0.3684 0.3452	0.3490 0.3435	0.3311	0.3704	0.3750	Ave		0.3546			0.1000	4.7		15.0			
Vinyl chloride	0.3448 0.3302	0.3395 0.3162	0.3209	0.3709	0.3711	Ave		0.3419				6.5		30.0			
Bromomethane	0.2501 0.2403	0.2345 0.2365	0.2319	0.2571	0.2596	Ave		0.2443				4.6		15.0			
Chloroethane	0.2936 0.2468	0.2632 0.2418	0.2492	0.2715	0.2724	Ave		0.2626				6.9		15.0			
Dichlorofluoromethane	0.6183 0.5535	0.5821 0.5557	0.5524	0.5993	0.6010	Ave		0.5803				4.6		15.0			
Trichlorofluoromethane	0.4575 0.4347	0.4394 0.4353	0.4251	0.4669	0.4816	Ave		0.4486				4.6		15.0			
Ethyl ether	0.1237 0.1334	0.1220 0.1331	0.1265	0.1341	0.1382	Ave		0.1301				4.7		15.0			
Acrolein	0.0178 0.0131	0.0152 0.0127	0.0134	0.0136	0.0136	Ave		0.0142				12.5		15.0			
Acetone	0.0481 0.0204	0.0358 0.0192	0.0289	0.0259	0.0222	Lin2	0.0557	0.0212							0.9920		0.9900
Freon 113	0.1949 0.1935	0.1903 0.1942	0.1862	0.2084	0.2131	Ave		0.1972				5.0		15.0			
1,1-Dichloroethene	0.2594 0.2596	0.2587 0.2602	0.2545	0.2808	0.2844	Ave		0.2654				4.5		30.0			
Iodomethane	0.3953 0.4034	0.3824 0.4042	0.3934	0.4213	0.4321	Ave		0.4046				4.2		15.0			
Methyl acetate	0.0787 0.0567	0.0949 0.0558	0.0606	0.0583	0.0592	Lin1	0.0395	0.0557							0.9980		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	0.5921 0.5224	0.5073 0.5021	0.5270	0.5588	0.5646	Ave		0.5392				6.2		15.0			
Carbon disulfide	1.1996 1.1831	1.1653 1.1332	1.1550	1.2693	1.2974	Ave		1.2004				5.1		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	++++ 1.2431	1.1255 1.2852	1.2694	1.3581	1.3212	Ave		1.2671				6.3		15.0			
Methylene Chloride	0.2999 0.2461	0.2675 0.2452	0.2477	0.2573	0.2576	Ave		0.2602				7.4		15.0			
Acrylonitrile	0.0303 0.0312	0.0303 0.0303	0.0293	0.0317	0.0324	Ave		0.0308				3.4		15.0			
Methyl tert-butyl ether	0.3288 0.3658	0.3390 0.3697	0.3371	0.3658	0.3750	Ave		0.3545				5.3		15.0			
trans-1,2-Dichloroethene	0.2902 0.2865	0.2904 0.2885	0.2860	0.3019	0.3055	Ave		0.2927				2.6		15.0			
Hexane	2.9343 2.5849	2.7116 2.5007	2.5983	2.9927	2.8801	Ave		2.7433				7.0		15.0			
Vinyl acetate	0.2023 0.2361	0.2168 0.2141	0.2115	0.2376	0.2447	Ave		0.2233				7.2		15.0			
1,1-Dichloroethane	0.5371 0.5324	0.5243 0.5307	0.5307	0.5610	0.5682	Ave		0.5406			0.1000	3.1		15.0			
Methyl ethyl ketone (MEK)	0.0352 0.0310	0.0356 0.0311	0.0315	0.0307	0.0330	Ave		0.0326				6.3		15.0			
cis-1,2-Dichloroethene	0.2839 0.2884	0.2764 0.2931	0.2830	0.2964	0.3035	Ave		0.2892				3.2		15.0			
2,2-Dichloropropane	0.4525 0.4362	0.4229 0.4398	0.4176	0.4516	0.4627	Ave		0.4405				3.7		15.0			
Chlorobromomethane	0.0830 0.0874	0.0793 0.0888	0.0832	0.0874	0.0922	Ave		0.0859				5.0		15.0			
Chloroform	0.4546 0.4548	0.4447 0.4577	0.4474	0.4688	0.4764	Ave		0.4578				2.5		30.0			
Tetrahydrofuran	++++ 0.0232	0.0281 0.0225	0.0248	0.0251	0.0241	Ave		0.0247				8.0		15.0			
Isobutyl alcohol	0.5370 0.4447	0.4825 0.4480	0.4654	0.4487	0.4428	Ave		0.4670				7.3		15.0			
1,1,1-Trichloroethane	0.4456 0.4465	0.4350 0.4482	0.4312	0.4731	0.4805	Ave		0.4514				4.1		15.0			
Cyclohexane	0.7050 0.6099	0.6463 0.5845	0.6247	0.6801	0.6793	Ave		0.6471				6.7		15.0			
1,1-Dichloropropene	0.4518 0.4304	0.4371 0.4255	0.4256	0.4616	0.4651	Ave		0.4424				3.8		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.3673 0.3820	0.3623 0.3841	0.3606	0.3988	0.4053	Ave		0.3800				4.6		15.0			
1,2-Dichloroethane	0.2279 0.2334	0.2197 0.2316	0.2259	0.2390	0.2404	Ave		0.2311				3.2		15.0			
Benzene	1.1772 1.1397	1.1617 1.1071	1.1465	1.2131	1.2175	Ave		1.1661				3.4		15.0			
n-Heptane	0.6172 0.5434	0.5708 0.5116	0.5571	0.6070	0.6005	Ave		0.5725				6.7		15.0			
Trichloroethene	0.2859 0.2882	0.2807 0.2918	0.2784	0.2992	0.3002	Ave		0.2892				2.9		15.0			
1,2-Dichloropropane	0.2612 0.2672	0.2529 0.2676	0.2563	0.2724	0.2771	Ave		0.2650				3.3		30.0			
Methylcyclohexane	0.5559 0.4941	0.5345 0.4759	0.5021	0.5410	0.5460	Ave		0.5214				5.8		15.0			
1,4-Dioxane	++++ 0.0009	0.0006 0.0009	0.0006	0.0008	0.0009	Ave		0.0008				13.9		15.0			
Dibromomethane	0.0779 0.0874	0.0798 0.0876	0.0800	0.0888	0.0900	Ave		0.0845				6.0		15.0			
Dichlorobromomethane	0.2532 0.2876	0.2564 0.2907	0.2596	0.2820	0.2902	Ave		0.2742				6.2		15.0			
2-Chloroethyl vinyl ether	0.0608 0.0737	0.0634 0.0751	0.0644	0.0723	0.0735	Ave		0.0690				8.6		15.0			
cis-1,3-Dichloropropene	1.3920 1.6767	1.4344 1.6778	1.4853	1.7001	1.7306	Ave		1.5853				9.0		15.0			
4-Methyl-2-pentanone (MIBK)	0.0780 0.0752	0.0725 0.0718	0.0668	0.0750	0.0759	Ave		0.0736				5.0		15.0			
Toluene	1.2795 1.1505	1.2092 1.0784	1.1816	1.2322	1.2498	Ave		1.1973				5.6		30.0			
Ethyl methacrylate	0.5786 0.7066	0.6049 0.7184	0.6157	0.7107	0.7405	Ave		0.6679				9.8		15.0			
trans-1,3-Dichloropropene	0.1999 0.2520	0.2032 0.2500	0.2136	0.2418	0.2517	Ave		0.2303				10.3		15.0			
1,1,2-Trichloroethane	0.1114 0.1165	0.1086 0.1164	0.1087	0.1173	0.1192	Ave		0.1140				3.8		15.0			
Methyl n-butyl ketone (MNBK)	0.2913 0.2353	0.2709 0.2289	0.2390	0.2380	0.2412	Ave		0.2492				9.2		15.0			
1,3-Dichloropropane	1.0654 1.1208	1.0672 1.1067	1.0482	1.1670	1.1655	Ave		1.1058				4.4		15.0			
Tetrachloroethene	1.0608 1.0467	1.0371 1.0583	1.0144	1.1286	1.1189	Ave		1.0664				4.0		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N  
Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorodibromomethane	0.5906 0.7077	0.5722 0.7223	0.5842	0.6687	0.7014	Ave		0.6496				10.0		15.0			
1,2-Dibromoethane	0.4492 0.5219	0.4762 0.5235	0.4747	0.5243	0.5293	Ave		0.4999				6.5		15.0			
Chlorobenzene	3.2562 3.2398	3.1764 3.1692	3.2224	3.4241	3.4415	Ave		3.2756			0.3000	3.4		15.0			
1,1,1,2-Tetrachloroethane	0.8745 1.0311	0.8980 1.0624	0.9103	1.0084	1.0470	Ave		0.9760				8.1		15.0			
Ethylbenzene	2.0873 2.1222	2.0340 2.1163	2.0610	2.2033	2.2120	Ave		2.1195				3.2		30.0			
m-Xylene & p-Xylene	2.5467 2.5517	2.4325 2.5418	2.4857	2.6888	2.6811	Ave		2.5612				3.7		15.0			
o-Xylene	2.3630 2.3565	2.3120 2.2942	2.2702	2.4884	2.4890	Ave		2.3676				3.8		15.0			
Styrene	3.4666 3.6584	3.4593 3.4848	3.5067	3.8037	3.8419	Ave		3.6030				4.6		15.0			
Bromoform	0.1875 0.3073	0.2295 0.3237	0.2311	0.2731	0.2898	Lin2	-0.060	0.2951			0.1000				0.9920		0.9900
Isopropylbenzene	4.9444 4.6477	4.7411 4.2969	4.8285	5.1185	5.0849	Ave		4.8089				5.9		15.0			
Cyclohexanone	0.0175 0.0144	0.0155 0.0144	0.0144	0.0147	0.0145	Ave		0.0151				7.6		15.0			
1,1,2,2-Tetrachloroethane	0.3844 0.3999	0.3705 0.3951	0.3669	0.4164	0.4157	Ave		0.3927			0.3000	5.1		15.0			
trans-1,4-Dichloro-2-butene	0.0935 0.1114	0.0973 0.1122	0.0903	0.1112	0.1085	Ave		0.1035				9.1		15.0			
1,2,3-Trichloropropane	0.1028 0.1098	0.1067 0.1091	0.1017	0.1117	0.1169	Ave		0.1084				4.8		15.0			
Bromobenzene	0.7360 0.8019	0.7432 0.8120	0.7675	0.8210	0.8347	Ave		0.7880				5.0		15.0			
N-Propylbenzene	1.3014 1.3089	1.2843 1.3028	1.3178	1.3923	1.3844	Ave		1.3274				3.2		15.0			
1,3,5-Trimethylbenzene	4.0554 3.9176	3.8976 3.6234	3.9575	4.1970	4.2083	Ave		3.9795				5.1		15.0			
2-Chlorotoluene	0.9950 1.0047	0.9559 1.0056	0.9977	1.0575	1.0646	Ave		1.0116				3.7		15.0			
4-Chlorotoluene	0.9845 1.0060	0.9831 1.0155	0.9955	1.0556	1.0555	Ave		1.0137				3.0		15.0			
tert-Butylbenzene	4.0582 3.8426	3.8324 3.6948	3.8534	4.1214	4.1443	Ave		3.9353				4.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N  
Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	3.9657 3.8305	3.8120 3.6380	3.9487	4.1089	4.1434	Ave		3.9210				4.5		15.0			
sec-Butylbenzene	1.0216 1.0384	1.0314 1.0367	1.0124	1.0931	1.1015	Ave		1.0479				3.3		15.0			
4-Isopropyltoluene	4.5169 4.3024	4.2930 4.0094	4.3554	4.6534	4.6938	Ave		4.4035				5.4		15.0			
1,3-Dichlorobenzene	1.7184 1.7163	1.6700 1.7138	1.6949	1.7894	1.8027	Ave		1.7294				2.8		15.0			
1,4-Dichlorobenzene	1.6635 1.6872	1.6530 1.6840	1.6683	1.7528	1.7792	Ave		1.6983				2.8		15.0			
n-Butylbenzene	4.6453 4.2816	4.3993 3.9607	4.4407	4.6918	4.6813	Ave		4.4430				6.0		15.0			
1,2-Dichlorobenzene	1.3046 1.3541	1.2890 1.3612	1.3277	1.4153	1.4237	Ave		1.3537				3.8		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0548	0.0307 0.0581	0.0408	0.0520	0.0515	Lin2	-0.027	0.0557							0.9970		0.9900
1,2,4-Trichlorobenzene	0.8922 0.9265	0.8508 0.9259	0.9073	0.9807	0.9855	Ave		0.9241				5.2		15.0			
Hexachlorobutadiene	0.7318 0.7382	0.7119 0.7394	0.7308	0.7801	0.7908	Ave		0.7462				3.8		15.0			
Naphthalene	1.0880 1.2176	1.0931 1.1937	1.1191	1.2465	1.2690	Ave		1.1753				6.4		15.0			
1,2,3-Trichlorobenzene	0.6366 0.6887	0.6262 0.6806	0.6564	0.7180	0.7338	Ave		0.6772				5.9		15.0			
Dibromofluoromethane (Surr)	++++ 0.1946	0.3484 0.2058	0.2731	0.2331	0.2184	Lin2	0.1491	0.1996							0.9990		0.9900
1,2-Dichloroethane-d4 (Surr)	++++ 0.1701	0.3206 0.1765	0.2339	0.2052	0.1912	Lin2	0.1454	0.1714							0.9980		0.9900
Toluene-d8 (Surr)	++++ 4.2715	8.5605 4.2581	6.4129	5.4733	4.9584	Lin2	4.2514	4.3450							0.9970		0.9900
4-Bromofluorobenzene (Surr)	++++ 1.0093	1.9902 1.0715	1.5104	1.3036	1.1449	Lin2	0.9525	1.0446							0.9970		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-430712/12	MS1_7322.D
Level 2	STD 280-430712/13	MS1_7323.D
Level 3	STD 280-430712/14	MS1_7324.D
Level 4	STD 280-430712/15	MS1_7325.D
Level 5	ICIS 280-430712/16	MS1_7326.D
Level 6	STD 280-430712/17	MS1_7327.D
Level 7	STD 280-430712/18	MS1_7328.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Lin1	+++++ 1416315	46704 3497864	99880	310829	615171	+++++ 25.0	1.00 60.0	2.50	5.00	10.0
Chloromethane	FB	Ave	28808 1378539	55045 3346937	131791	286053	577084	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Vinyl chloride	FB	Ave	26970 1318604	53541 3080686	127739	286439	571169	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Bromomethane	FB	Ave	19557 959811	36987 2304605	92307	198546	399568	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Chloroethane	FB	Ave	22961 985649	41509 2356110	99192	209678	419236	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Dichlorofluoromethane	FB	Ave	48356 2210414	91804 5414642	219893	462837	924880	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Trichlorofluoromethane	FB	Ave	35778 1735904	69299 4240861	169244	360578	741133	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Ethyl ether	FB	Ave	9672 532630	19240 1296962	50371	103532	212641	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Acrolein	FB	Ave	8255 310584	14202 731912	31527	62375	123626	2.96 148	5.93 356	14.8	29.6	59.3
Acetone	FB	Lin2	15040 325271	22607 749780	45997	79962	136705	2.00 100	4.00 240	10.0	20.0	40.0
Freon 113	FB	Ave	15246 772565	30017 1892069	74130	160959	327948	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,1-Dichloroethene	FB	Ave	20291 1036737	40793 2535376	101312	216876	437770	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Iodomethane	FB	Ave	30913 1611075	60311 3938453	156624	325385	664970	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Methyl acetate	FB	Lin1	12315 452778	29928 1087113	48284	90015	182128	1.00 50.0	2.00 120	5.00	10.0	20.0
Allyl chloride	FB	Ave	46309 2086115	80001 4892040	209784	431571	868962	0.500 25.0	1.00 60.0	2.50	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	93815 4724641	183781 11041115	459788	980326	1996731	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	TBAd 9	Ave	++++ 246083	7857 608407	21626	47656	95574	++++ 250	10.0 600	25.0	50.0	100
Methylene Chloride	FB	Ave	23455 982950	42191 2389262	98617	198743	396444	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Acrylonitrile	FB	Ave	23724 1246186	47747 2949486	116615	244883	498569	5.00 250	10.0 600	25.0	50.0	100
Methyl tert-butyl ether	FB	Ave	25714 1460882	53465 3601566	134208	282536	577104	0.500 25.0	1.00 60.0	2.50	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	22699 1144087	45797 2811104	113845	233189	470121	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Hexane	CBNZ d5	Ave	46296 2105777	86636 4977843	210385	460130	896526	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Vinyl acetate	FB	Ave	31649 1885909	68371 4172332	168426	366987	753231	1.00 50.0	2.00 120	5.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	42009 2126193	82681 5170966	211252	433285	874401	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Ave	11017 494627	22454 1213112	50082	94929	202920	2.00 100	4.00 240	10.0	20.0	40.0
cis-1,2-Dichloroethene	FB	Ave	22205 1151531	43589 2855644	112650	228897	467055	0.500 25.0	1.00 60.0	2.50	5.00	10.0
2,2-Dichloropropane	FB	Ave	35391 1741912	66703 4285468	166232	348753	712084	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Chlorobromomethane	FB	Ave	6489 349138	12513 864881	33105	67485	141940	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Chloroform	FB	Ave	35551 1816222	70139 4458929	178111	362042	733235	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Tetrahydrofuran	FB	Ave	++++ 185294	8879 439361	19780	38840	74300	++++ 50.0	2.00 120	5.00	10.0	20.0
Isobutyl alcohol	TBAd 9	Ave	4533 220083	8420 530208	19821	39363	80072	12.5 625	25.0 1500	62.5	125	250
1,1,1-Trichloroethane	FB	Ave	34851 1783077	68601 4366855	171669	365396	739438	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Cyclohexane	FB	Ave	55134 2435692	101933 5694671	248700	525269	1045415	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,1-Dichloropropene	FB	Ave	35333 1718755	68931 4145245	169429	356510	715755	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Carbon tetrachloride	FB	Ave	28723 1525293	57135 3742611	143563	308011	623739	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2-Dichloroethane	FB	Ave	17823 932086	34646 2256705	89940	184584	369920	0.500 25.0	1.00 60.0	2.50	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Benzene	FB	Ave	92068 4551377	183221 10786327	456410	936876	1873759	0.500 25.0	1.00 60.0	2.50	5.00	10.0
n-Heptane	FB	Ave	48269 2169818	90030 4984266	221772	468780	924137	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Trichloroethene	FB	Ave	22363 1150737	44265 2842954	110818	231098	462015	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2-Dichloropropane	FB	Ave	20425 1066916	39878 2607693	102040	210347	426534	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Methylcyclohexane	FB	Ave	43476 1973017	84301 4636593	199889	417828	840242	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,4-Dioxane	FB	Ave	++++ 67940	1992 166521	5124	12672	26222	++++ 500	20.0 1200	50.0	100	200
Dibromomethane	FB	Ave	6095 349032	12585 853099	31855	68605	138544	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Dichlorobromomethane	FB	Ave	19804 1148656	40436 2832332	103351	217773	446581	0.500 25.0	1.00 60.0	2.50	5.00	10.0
2-Chloroethyl vinyl ether	FB	Ave	4754 294257	9993 731596	25643	55804	113187	0.500 25.0	1.00 60.0	2.50	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	21963 1365881	45829 3339829	120263	261384	538696	0.500 25.0	1.00 60.0	2.50	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	24404 1200949	45725 2799443	106299	231581	467403	2.00 100	4.00 240	10.0	20.0	40.0
Toluene	FB	Ave	100070 4594584	190708 10506911	470395	951664	1923513	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	9129 575620	19328 1429925	49852	109263	230506	0.500 25.0	1.00 60.0	2.50	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	15630 1006266	32052 2435600	85014	186716	387308	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	8709 465336	17131 1134420	43268	90555	183389	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	18385 766736	34618 1822305	77395	146350	300369	2.00 100	4.00 240	10.0	20.0	40.0
1,3-Dichloropropane	CBNZ d5	Ave	16809 913055	34097 2202958	84870	179430	362809	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	16737 852668	33137 2106688	82134	173525	348295	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Chlorodibromomethane	CBNZ d5	Ave	9318 576532	18282 1437743	47302	102815	218343	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	7088 425158	15216 1042119	38436	80605	164744	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	51374 2639221	101488 6308518	260913	526447	1071253	0.500 25.0	1.00 60.0	2.50	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	13797 840007	28691 2114859	73707	155041	325902	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	32933 1728841	64987 4212717	166879	338759	688542	0.500 25.0	1.00 60.0	2.50	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	40180 2078739	77719 5059685	201264	413405	834575	0.500 25.0	1.00 60.0	2.50	5.00	10.0
o-Xylene	CBNZ d5	Ave	37282 1919702	73869 4566794	183819	382581	774783	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Styrene	CBNZ d5	Ave	54694 2980263	110525 6936704	283938	584813	1195885	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Bromoform	CBNZ d5	Lin2	2959 250341	7333 644395	18713	41990	90221	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	106563 5281396	208074 11898439	531211	1087681	2192143	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Cyclohexanone	CBNZ d5	Ave	11047 469417	19758 1148364	46586	90574	180940	20.0 1000	40.0 2400	100	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	8284 454453	16262 1093966	40362	88484	179228	0.500 25.0	1.00 60.0	2.50	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	2015 126578	4269 310764	9934	23622	46793	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	2216 124740	4682 302147	11191	23745	50407	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Bromobenzene	DCBd 4	Ave	15863 911187	32617 2248503	84439	174458	359842	0.500 25.0	1.00 60.0	2.50	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	28049 1487300	56364 3607597	144974	295862	596825	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	87403 4451663	171055 10033633	435390	891866	1814245	0.500 25.0	1.00 60.0	2.50	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	21444 1141707	41952 2784535	109766	224729	458976	0.500 25.0	1.00 60.0	2.50	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	21219 1143182	43145 2812136	109522	224322	455054	0.500 25.0	1.00 60.0	2.50	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	87464 4366524	168192 10231191	423933	875811	1786648	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	85471 4352736	167298 10074069	434419	873142	1786263	0.500 25.0	1.00 60.0	2.50	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	22018 1180026	45264 2870791	111383	232296	474865	0.500 25.0	1.00 60.0	2.50	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	97349 4888953	188408 11102418	479158	988862	2023543	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	37035 1950345	73291 4745617	186468	380260	777144	0.500 25.0	1.00 60.0	2.50	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 430712

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 GC Column: DB-624 (60. ID: 0.25 (mm)) Heated Purge: (Y/N) N

Calibration Start Date: 09/24/2018 11:47 Calibration End Date: 09/24/2018 13:48 Calibration ID: 33807

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dichlorobenzene	DCBd 4	Ave	35853 1917252	72546 4663051	183538	372482	767011	0.500 25.0	1.00 60.0	2.50	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	100117 4865343	193074 10967511	488546	997024	2018140	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	28117 1538757	56572 3769175	146072	300744	613764	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin2	++++ 62230	1347 160750	4494	11043	22202	++++ 25.0	1.00 60.0	2.50	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	19228 1052861	37338 2564016	99820	208405	424837	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	15771 838884	31245 2047548	80395	165777	340932	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Naphthalene	DCBd 4	Ave	23449 1383572	47975 3305559	123117	264878	547099	0.500 25.0	1.00 60.0	2.50	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	13720 782649	27481 1884697	72219	152585	316334	0.500 25.0	1.00 60.0	2.50	5.00	10.0
Dibromofluoromethane (Surr)	FB	Lin2	++++ 932756	54943 2005186	86968	180001	336078	++++ 30.0	1.00 60.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin2	++++ 815030	50562 1719722	74482	158477	294234	++++ 30.0	1.00 60.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Lin2	++++ 4175612	273514 8475941	415402	841518	1543448	++++ 30.0	1.00 60.0	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Lin2	++++ 1376311	87345 2967057	132931	277009	493556	++++ 30.0	1.00 60.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 425296

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/08/2018 13:00 Calibration End Date: 08/08/2018 14:48 Calibration ID: 33331

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-425296/20	MS9_3391.D
Level 2	STD 280-425296/21	MS9_3392.D
Level 3	STD 280-425296/22	MS9_3393.D
Level 4	ICIS 280-425296/23	MS9_3394.D
Level 5	STD 280-425296/24	MS9_3395.D
Level 6	STD 280-425296/25	MS9_3396.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Ethylene oxide	0.0028 0.0027	0.0029	0.0030	0.0028	0.0027	Ave		0.0028				4.4		15.0			
Ethanol	++++ 0.1582	0.1874	0.1765	0.1493	0.1564	Ave		0.1656				9.6		15.0			
Propene oxide	0.0118 0.0115	0.0115	0.0122	0.0118	0.0114	Ave		0.0117				2.5		15.0			
2-Propanol	1.1799 1.0653	1.0248	1.0001	0.9262	1.0518	Ave		1.0413				8.0		15.0			
Acetonitrile	++++ 0.0112	0.0134	0.0115	0.0110	0.0106	Ave		0.0115				9.6		15.0			
Di-isopropyl ether (DIPE)	0.2119 0.2028	0.2025	0.2097	0.2011	0.2027	Ave		0.2051				2.2		15.0			
Chloroprene	0.6497 0.6330	0.6386	0.6476	0.6309	0.6464	Ave		0.6410				1.3		15.0			
Tert-butyl ethyl ether	0.6529 0.6694	0.6465	0.6882	0.6649	0.6581	Ave		0.6633				2.2		15.0			
Ethyl acetate	0.0826 0.0832	0.0852	0.0857	0.0829	0.0800	Ave		0.0833				2.4		15.0			
Propionitrile	0.0123 0.0112	0.0113	0.0118	0.0113	0.0110	Ave		0.0115				4.1		15.0			
Methacrylonitrile	0.0628 0.0620	0.0613	0.0639	0.0628	0.0614	Ave		0.0624				1.6		15.0			
Tert-amyl methyl ether	0.5307 0.5143	0.5034	0.5196	0.5032	0.5012	Ave		0.5121				2.3		15.0			
n-Butanol	0.3225 0.4377	0.3660	0.4124	0.3859	0.4234	Ave		0.3913				10.9		15.0			
Methyl methacrylate	0.0261 0.0247	0.0247	0.0263	0.0252	0.0243	Ave		0.0252				3.2		15.0			
2-Nitropropane	0.0201 0.0222	0.0230	0.0229	0.0221	0.0212	Ave		0.0219				4.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 425296  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 08/08/2018 13:00 Calibration End Date: 08/08/2018 14:48 Calibration ID: 33331

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
Tetrahydrothiophene	+++++ 0.0383	0.0296	0.0344	0.0323	0.0354	Ave		0.0340				9.6		15.0			
cis-1,4-Dichloro-2-butene	0.0727 0.0656	0.0654	0.0722	0.0659	0.0627	Ave		0.0674				6.0		15.0			
1,2,3-Trimethylbenzene	4.2788 3.7203	4.1585	4.3164	3.8365	3.8886	Ave		4.0332				6.2		15.0			
1,3,5-Trichlorobenzene	1.8910 1.6407	1.7689	1.8575	1.6304	1.7470	Ave		1.7560				6.1		15.0			
Dibromofluoromethane (Surr)	0.2802 0.2585	0.3011	0.2559	0.2590	0.2583	Ave		0.2688				6.8		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2409 0.2216	0.2564	0.2184	0.2223	0.2164	Ave		0.2293				6.9		15.0			
Toluene-d8 (Surr)	6.4231 5.4799	6.6540	5.6253	5.3885	5.5791	Ave		5.8583				9.2		15.0			
4-Bromofluorobenzene (Surr)	1.3724 1.0973	1.4426	1.2064	1.1570	1.1289	Ave		1.2341				11.4		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 425296

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/08/2018 13:00 Calibration End Date: 08/08/2018 14:48 Calibration ID: 33331

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD 280-425296/20	MS9_3391.D
Level 2	STD 280-425296/21	MS9_3392.D
Level 3	STD 280-425296/22	MS9_3393.D
Level 4	ICIS 280-425296/23	MS9_3394.D
Level 5	STD 280-425296/24	MS9_3395.D
Level 6	STD 280-425296/25	MS9_3396.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Ethylene oxide	FB	Ave	26853 1413290	56653	145323	259576	721168	100 6000	200	500	1000	3000
Ethanol	TBAd 9	Ave	++++ 253888	10701	26588	45508	126232	++++ 3600	120	300	600	1800
Propene oxide	FB	Ave	114135 6085182	224359	588339	1095893	2993413	100 6000	200	500	1000	3000
2-Propanol	TBAd 9	Ave	5780 285015	9752	25107	47051	141479	10.0 600	20.0	50.0	100	300
Acetonitrile	FB	Ave	++++ 590036	26056	55454	102010	279154	++++ 600	20.0	50.0	100	300
Di-isopropyl ether (DIPE)	FB	Ave	20478 1070790	39345	101199	186909	534127	1.00 60.0	2.00	5.00	10.0	30.0
Chloroprene	FB	Ave	62792 3342189	124078	312474	586338	1703383	1.00 60.0	2.00	5.00	10.0	30.0
Tert-butyl ethyl ether	FB	Ave	63104 3534430	125608	332035	617987	1734204	1.00 60.0	2.00	5.00	10.0	30.0
Ethyl acetate	FB	Ave	15974 878868	33121	82671	154183	421816	2.00 120	4.00	10.0	20.0	60.0
Propionitrile	FB	Ave	11891 591057	21981	56994	105361	290650	10.0 600	20.0	50.0	100	300
Methacrylonitrile	FB	Ave	60653 3275991	119177	308533	583411	1617215	10.0 600	20.0	50.0	100	300
Tert-amyl methyl ether	FB	Ave	51294 2715237	97803	250680	467716	1320629	1.00 60.0	2.00	5.00	10.0	30.0
n-Butanol	TBAd 9	Ave	3949 292736	8707	25885	49013	142372	25.0 1500	50.0	125	250	750
Methyl methacrylate	FB	Ave	5037 260794	9609	25411	46881	128195	2.00 120	4.00	10.0	20.0	60.0
2-Nitropropane	FB	Ave	3893 234626	8940	22064	41150	111950	2.00 120	4.00	10.0	20.0	60.0
Tetrahydrothiophene	CBNZ d5	Ave	++++ 83387	2431	6986	12852	38835	++++ 120	4.00	10.0	20.0	60.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 425296

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 08/08/2018 13:00 Calibration End Date: 08/08/2018 14:48 Calibration ID: 33331

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
cis-1,4-Dichloro-2-butene	DCBd 4	Ave	4380 227616	7867	21378	37750	107306	2.00 120	4.00	10.0	20.0	60.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	128881 6455307	250246	639367	1099346	3325988	1.00 60.0	2.00	5.00	10.0	30.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	56959 2846943	106449	275148	467192	1494263	1.00 60.0	2.00	5.00	10.0	30.0
Dibromofluoromethane (Surr)	FB	Ave	27082 1365081	58502	123459	240696	680674	1.00 60.0	2.00	5.00	10.0	30.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	23282 1170080	49819	105373	206588	570286	1.00 60.0	2.00	5.00	10.0	30.0
Toluene-d8 (Surr)	CBNZ d5	Ave	131907 5961388	273288	570960	1071754	3063357	1.00 60.0	2.00	5.00	10.0	30.0
4-Bromofluorobenzene (Surr)	DCBd 4	Ave	41337 1903938	86809	178693	331521	965571	1.00 60.0	2.00	5.00	10.0	30.0

Curve Type Legend:

Ave = Average ISTD



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-429583/12	MS9_4822.D
Level 2	IC 280-429583/13	MS9_4823.D
Level 3	IC 280-429583/14	MS9_4824.D
Level 4	IC 280-429583/15	MS9_4825.D
Level 5	ICIS 280-429583/16	MS9_4826.D
Level 6	IC 280-429583/17	MS9_4827.D
Level 7	IC 280-429583/18	MS9_4828.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5		B	M1	M2								
	LVL 6	LVL 7															
Dichlorodifluoromethane	++++ 0.5652	0.6837 ++++	0.6347	0.7190	0.6928	Ave		0.6591				9.2		15.0			
Chloromethane	++++ 0.4727	0.6685 ++++	0.5985	0.6213	0.5582	Ave		0.5838			0.1000	12.6		15.0			
Vinyl chloride	++++ 0.5298	0.7664 ++++	0.6788	0.6749	0.6283	Ave		0.6556				13.2		30.0			
Bromomethane	++++ 0.4149	0.5179 ++++	0.5190	0.4655	0.4621	Ave		0.4759				9.2		15.0			
Chloroethane	++++ 0.3394	0.4238 0.2916	0.4000	0.3774	0.3708	Ave		0.3672				12.7		15.0			
Dichlorofluoromethane	++++ 0.7886	1.0615 ++++	1.0561	0.9181	0.9128	Ave		0.9474				12.0		15.0			
Trichlorofluoromethane	++++ 0.7598	1.0440 ++++	1.0022	0.9331	0.8938	Ave		0.9266				11.9		15.0			
Ethyl ether	++++ 0.1548	++++ 0.1384	0.1802	0.1840	0.1740	Ave		0.1663				11.6		15.0			
Acrolein	++++ 0.0158	0.0218 ++++	0.0198	0.0181	0.0182	Ave		0.0188				11.7		15.0			
Freon 113	++++ 0.3629	0.5077 ++++	0.4802	0.4342	0.4275	Ave		0.4425				12.5		15.0			
1,1-Dichloroethene	++++ 0.3634	0.4827 0.3281	0.4672	0.4369	0.4211	Ave		0.4166				14.4		30.0			
Acetone	0.0695 0.0270	0.0490 0.0235	0.0382	0.0337	0.0304	Lin2	0.0867	0.0268							0.9920		0.9900
Iodomethane	++++ 0.5952	0.8063 0.5353	0.7523	0.7094	0.6964	Ave		0.6825				14.7		15.0			
Methyl acetate	++++ 0.0845	0.2147 ++++	0.1423	0.1004	0.0992	Lin2	0.2669	0.0791							0.9940		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Allyl chloride	++++ 0.5706	++++ 0.5053	0.7083	0.6740	0.6486	Ave		0.6214				13.2		15.0			
Carbon disulfide	++++ 1.3565	++++ 1.1403	1.6598	1.5904	1.5700	Ave		1.4634				14.6		15.0			
Tert-butyl alcohol (2-methyl-2-propanol)	0.0140 0.0106	0.0119 0.0089	0.0115	0.0124	0.0116	Ave		0.0115				13.6		15.0			
Methylene Chloride	++++ 0.3102	++++ 0.2794	0.3984	0.3655	0.3547	Ave		0.3416				13.7		15.0			
Methyl tert-butyl ether	++++ 0.5088	0.6477 0.4513	0.6242	0.5907	0.5769	Ave		0.5666				13.0		15.0			
trans-1,2-Dichloroethene	++++ 0.3877	0.5216 0.3504	0.4752	0.4521	0.4367	Ave		0.4373				14.0		15.0			
Acrylonitrile	0.0404 0.0320	0.0396 0.0293	0.0383	0.0354	0.0363	Ave		0.0359				11.3		15.0			
Hexane	++++ 2.1237	3.0122 ++++	2.6257	2.4269	2.3747	Ave		2.5126				13.2		15.0			
Vinyl acetate	0.2734 0.2341	0.3136 0.2286	0.2969	0.2873	0.2658	Ave		0.2714				11.6		15.0			
1,1-Dichloroethane	0.8303 0.6019	0.8067 ++++	0.7702	0.7113	0.6940	Ave		0.7357			0.1000	11.4		15.0			
Methyl ethyl ketone (MEK)	++++ 0.0378	0.0617 0.0328	0.0517	0.0457	0.0441	Lin1	0.1473	0.0342							0.9910		0.9900
2,2-Dichloropropane	++++ 0.6305	0.9341 ++++	0.8394	0.7752	0.7371	Ave		0.7832				14.5		15.0			
cis-1,2-Dichloroethene	++++ 0.3742	0.5127 0.3363	0.4525	0.4326	0.4233	Ave		0.4219				14.6		15.0			
Tetrahydrofuran	++++ 0.0290	++++ 0.0254	0.0387	0.0321	0.0332	Lin2	0.0455	0.0278							0.9910		0.9900
Chloroform	0.7900 0.5873	0.7893 ++++	0.7487	0.7029	0.6743	Ave		0.7154				10.9		30.0			
Chlorobromomethane	++++ 0.1361	0.1705 0.1246	0.1594	0.1592	0.1517	Ave		0.1503				11.3		15.0			
1,1,1-Trichloroethane	0.9246 0.6668	0.9103 ++++	0.8482	0.7824	0.7842	Ave		0.8194				11.7		15.0			
Isobutyl alcohol	++++ 1.0451	1.0885 0.9097	1.0833	1.0221	1.0580	Ave		1.0345				6.4		15.0			
Cyclohexane	++++ 0.6998	0.9242 0.6333	0.8508	0.8020	0.8082	Ave		0.7864				13.3		15.0			
1,1-Dichloropropene	0.8034 0.5517	0.7318 ++++	0.6951	0.6331	0.6227	Ave		0.6730				13.3		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Carbon tetrachloride	0.7630 0.6061	0.7586 0.5463	0.7132	0.6758	0.6847	Ave		0.6782				11.7		15.0			
n-Heptane	++++ 0.6308	0.8054 0.5458	0.7542	0.7230	0.7121	Ave		0.6952				13.4		15.0			
Benzene	1.6997 1.3231	1.6892 ++++	1.5882	1.4738	1.4655	Ave		1.5399				9.5		15.0			
1,2-Dichloroethane	0.4491 0.3473	0.4598 0.3069	0.4256	0.4037	0.3911	Ave		0.3976				13.8		15.0			
Trichloroethene	0.5436 0.4039	0.5232 0.3563	0.4911	0.4670	0.4569	Ave		0.4632				14.2		15.0			
Methylcyclohexane	++++ 0.6004	0.8208 ++++	0.7665	0.7155	0.6949	Ave		0.7196				11.5		15.0			
1,2-Dichloropropane	0.4053 0.2964	0.3824 0.2681	0.3589	0.3328	0.3259	Ave		0.3386				14.1		30.0			
1,4-Dioxane	0.0015 0.0013	0.0015 0.0011	0.0017	0.0016	0.0015	Ave		0.0015				12.8		15.0			
Dibromomethane	0.1580 0.1295	0.1667 0.1148	0.1584	0.1473	0.1457	Ave		0.1457				12.4		15.0			
Dichlorobromomethane	0.4442 0.3833	0.4564 0.3399	0.4433	0.4305	0.4237	Ave		0.4173				9.9		15.0			
2-Chloroethyl vinyl ether	0.1090 0.0943	0.0992 0.0843	0.1017	0.1026	0.1059	Ave		0.0996				8.2		15.0			
cis-1,3-Dichloropropene	1.8131 1.4849	1.7156 1.3711	1.7071	1.6127	1.5987	Ave		1.6147				9.3		15.0			
4-Methyl-2-pentanone (MIBK)	0.1065 0.0871	0.1081 0.0783	0.1025	0.1032	0.1007	Ave		0.0980				11.3		15.0			
Toluene	++++ 1.4035	1.8951 ++++	1.7498	1.6163	1.5763	Ave		1.6482				11.2		30.0			
Ethyl methacrylate	0.7265 0.6841	0.7724 0.6584	0.7276	0.7244	0.7445	Ave		0.7197				5.2		15.0			
trans-1,3-Dichloropropene	0.3721 0.3263	0.3725 0.2895	0.3681	0.3721	0.3657	Ave		0.3523				9.1		15.0			
1,1,2-Trichloroethane	0.2075 0.1674	0.2162 0.1452	0.2062	0.1964	0.1859	Ave		0.1893				13.3		15.0			
Methyl n-butyl ketone (MNBK)	0.2980 0.2193	0.2975 0.2013	0.2627	0.2459	0.2463	Ave		0.2530				14.4		15.0			
Tetrachloroethene	1.6895 1.3550	1.6979 1.2723	1.5978	1.5194	1.4712	Ave		1.5147				10.7		15.0			
1,3-Dichloropropane	1.2939 1.0304	1.2950 0.9657	1.1802	1.1631	1.1366	Ave		1.1521				10.7		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorodibromomethane	0.7559 0.8008	0.8399 0.7571	0.8450	0.8229	0.8548	Ave		0.8109				5.1		15.0			
1,2-Dibromoethane	0.6885 0.5858	0.7235 0.5369	0.6529	0.6573	0.6507	Ave		0.6422				9.7		15.0			
Chlorobenzene	4.2285 3.2738	4.2320 2.9292	3.9067	3.6817	3.6332	Ave		3.6979			0.3000	13.0		15.0			
Ethylbenzene	2.8314 2.1408	2.6614 2.0096	2.5388	2.3805	2.3737	Ave		2.4194				11.8		30.0			
1,1,1,2-Tetrachloroethane	1.3293 1.2263	1.2554 1.2064	1.2661	1.2842	1.3114	Ave		1.2684				3.5		15.0			
m-Xylene & p-Xylene	6.4695 4.9578	6.3406 ++++	5.9843	5.4889	5.5365	Ave		5.7963				9.9		15.0			
o-Xylene	++++ 2.3520	2.8699 2.2250	2.7187	2.5817	2.5970	Ave		2.5574				9.2		15.0			
Styrene	4.0121 3.6300	4.0528 3.2357	3.8795	3.7872	3.9091	Ave		3.7866				7.4		15.0			
Isopropylbenzene	5.2709 3.5582	5.1534 ++++	4.7352	4.2618	4.0811	Ave		4.5101				14.7		15.0			
Bromoform	0.3959 0.4458	0.3923 0.4517	0.4200	0.4053	0.4528	Ave		0.4234			0.1000	6.3		15.0			
Cyclohexanone	0.0182 0.0126	0.0132 0.0120	0.0116	0.0130	0.0130	Lin1	0.0884	0.0122							0.9990		0.9900
1,1,2,2-Tetrachloroethane	0.4744 0.3522	0.4715 0.3111	0.4272	0.3978	0.3866	Ave		0.4030			0.3000	14.9		15.0			
N-Propylbenzene	++++ 1.1340	1.5978 1.0114	1.4291	1.3224	1.2773	Lin2	0.4974	1.1414							0.9920		0.9900
trans-1,4-Dichloro-2-butene	++++ 0.1357	0.1981 0.1209	0.1637	0.1496	0.1523	Lin2	0.0657	0.1331							0.9940		0.9900
1,2,3-Trichloropropane	0.1554 0.1185	0.1455 0.1043	0.1507	0.1352	0.1315	Ave		0.1344				13.6		15.0			
Bromobenzene	1.0915 0.8501	1.0819 0.7714	1.0303	0.9489	0.9367	Ave		0.9587				12.4		15.0			
1,3,5-Trimethylbenzene	4.3523 3.0657	4.2311 ++++	3.9183	3.5916	3.4974	Ave		3.7761				12.8		15.0			
2-Chlorotoluene	++++ 0.9694	1.3302 0.8913	1.1777	1.0822	1.0758	Ave		1.0878				14.2		15.0			
4-Chlorotoluene	++++ 0.9672	1.2760 0.8809	1.1944	1.1066	1.0672	Ave		1.0821				13.4		15.0			
tert-Butylbenzene	3.9258 2.8029	3.8542 ++++	3.5248	3.2124	3.1334	Ave		3.4089				12.9		15.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583  
SDG No.: \_\_\_\_\_  
Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,4-Trimethylbenzene	4.2185 3.1448	4.2358 ++++	3.9393	3.6290	3.5565	Ave		3.7873				11.2		15.0			
sec-Butylbenzene	++++ 0.9812	1.2862 0.8797	1.2016	1.1002	1.0765	Ave		1.0876				13.5		15.0			
4-Isopropyltoluene	5.0849 3.6307	4.9992 ++++	4.5753	4.2724	4.1712	Ave		4.4556				12.3		15.0			
1,3-Dichlorobenzene	++++ 1.7094	2.2491 1.5024	2.1236	1.9094	1.9283	Ave		1.9037				14.2		15.0			
1,4-Dichlorobenzene	2.2118 1.6650	2.2284 ++++	2.0728	1.9053	1.8638	Ave		1.9912				11.0		15.0			
n-Butylbenzene	++++ 3.4736	4.7805 ++++	4.5458	4.1597	4.0428	Ave		4.2005				12.0		15.0			
1,2-Dichlorobenzene	++++ 1.3756	1.8504 ++++	1.7111	1.5856	1.5536	Ave		1.6153				11.0		15.0			
1,2-Dibromo-3-Chloropropane	++++ 0.0719	0.0886 0.0671	0.0835	0.0807	0.0810	Ave		0.0788				10.0		15.0			
1,2,4-Trichlorobenzene	1.3714 1.0115	1.3751 ++++	1.3173	1.2273	1.1645	Ave		1.2445				11.3		15.0			
Hexachlorobutadiene	++++ 0.8944	1.3081 ++++	1.2060	1.1056	1.0397	Ave		1.1108				14.2		15.0			
Naphthalene	++++ 1.1723	1.5926 1.0535	1.4465	1.3803	1.3205	Ave		1.3276				14.5		15.0			
1,2,3-Trichlorobenzene	++++ 0.8136	1.1172 ++++	1.0375	1.0098	0.9252	Ave		0.9807				11.8		15.0			
Dibromofluoromethane (Surr)	++++ 0.2945	0.4215 ++++	0.3793	0.3538	0.3362	Lin2	0.1125	0.3158							0.9960		0.9900
1,2-Dichloroethane-d4 (Surr)	++++ 0.2669	0.3897 ++++	0.3430	0.3276	0.3039	Lin1	0.1506	0.2710							0.9960		0.9900
Toluene-d8 (Surr)	++++ 4.1354	5.6647 ++++	5.0761	4.8170	4.6530	Lin2	1.3395	4.3781							0.9970		0.9900
4-Bromofluorobenzene (Surr)	++++ 0.8774	1.3360 ++++	1.2002	1.0638	1.0068	Lin2	0.4260	0.9406							0.9950		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-429583/12	MS9_4822.D
Level 2	IC 280-429583/13	MS9_4823.D
Level 3	IC 280-429583/14	MS9_4824.D
Level 4	IC 280-429583/15	MS9_4825.D
Level 5	ICIS 280-429583/16	MS9_4826.D
Level 6	IC 280-429583/17	MS9_4827.D
Level 7	IC 280-429583/18	MS9_4828.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	+++++ 2172574	87817 +++++	164078	467817	950457	+++++ 25.0	1.00 +++++	2.00	5.00	10.0
Chloromethane	FB	Ave	+++++ 1817164	85866 +++++	154731	404251	765696	+++++ 25.0	1.00 +++++	2.00	5.00	10.0
Vinyl chloride	FB	Ave	+++++ 2036504	98434 +++++	175468	439131	861953	+++++ 25.0	1.00 +++++	2.00	5.00	10.0
Bromomethane	FB	Ave	+++++ 1594864	66513 +++++	134180	302907	633938	+++++ 25.0	1.00 +++++	2.00	5.00	10.0
Chloroethane	FB	Ave	+++++ 1304701	54437 3181613	103400	245579	508695	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	+++++ 3031630	136337 +++++	273014	597372	1252156	+++++ 25.0	1.00 +++++	2.00	5.00	10.0
Trichlorofluoromethane	FB	Ave	+++++ 2920974	134093 +++++	259073	607155	1226128	+++++ 25.0	1.00 +++++	2.00	5.00	10.0
Ethyl ether	FB	Ave	+++++ 595224	+++++ 1509650	46581	119696	238709	+++++ 25.0	+++++ 60.0	2.00	5.00	10.0
Acrolein	FB	Ave	+++++ 360768	16567 +++++	30334	69967	147909	+++++ 148	5.93 +++++	11.9	29.6	59.3
Freon 113	FB	Ave	+++++ 1395117	65211 +++++	124136	282552	586386	+++++ 25.0	1.00 +++++	2.00	5.00	10.0
1,1-Dichloroethene	FB	Ave	+++++ 1396830	61992 3580401	120784	284292	577664	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Acetone	FB	Lin2	17588 415504	25171 1025951	39528	87823	166617	2.00 100	4.00 240	8.00	20.0	40.0
Iodomethane	FB	Ave	+++++ 2288191	103557 5841004	194482	461621	955397	+++++ 25.0	1.00 60.0	2.00	5.00	10.0
Methyl acetate	FB	Lin2	+++++ 649486	55164 +++++	73594	130701	272149	+++++ 50.0	2.00 +++++	4.00	10.0	20.0
Allyl chloride	FB	Ave	+++++ 2193575	+++++ 5513835	183095	438535	889766	+++++ 25.0	+++++ 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Carbon disulfide	FB	Ave	++++ 5214497	++++ 12442580	429082	1034845	2153761	++++ 25.0	++++ 60.0	2.00	5.00	10.0
Tert-butyl alcohol (2-methyl-2-propanol)	FB	Ave	8842 406953	15292 968648	29836	80562	158667	5.00 250	10.0 600	20.0	50.0	100
Methylene Chloride	FB	Ave	++++ 1192469	++++ 3048927	102990	237838	486522	++++ 25.0	++++ 60.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Ave	++++ 1955848	83190 4923889	161370	384334	791467	++++ 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	++++ 1490448	66999 3823959	122849	294164	599044	++++ 25.0	1.00 60.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	25535 1228536	50844 3195276	99095	230078	497907	5.00 250	10.0 600	20.0	50.0	100
Hexane	CBNZ d5	Ave	++++ 2213509	109224 ++++	192162	446648	908679	++++ 25.0	1.00 ++++	2.00	5.00	10.0
Vinyl acetate	FB	Ave	34587 1799744	80550 4987896	153488	373838	729157	1.00 50.0	2.00 120	4.00	10.0	20.0
1,1-Dichloroethane	FB	Ave	52524 2313667	103618 ++++	199098	462857	952055	0.500 25.0	1.00 ++++	2.00	5.00	10.0
Methyl ethyl ketone (MEK)	FB	Lin1	++++ 581530	31679 1431048	53507	118844	242210	++++ 100	4.00 240	8.00	20.0	40.0
2,2-Dichloropropane	FB	Ave	++++ 2423610	119976 ++++	216993	504421	1011133	++++ 25.0	1.00 ++++	2.00	5.00	10.0
cis-1,2-Dichloroethene	FB	Ave	++++ 1438666	65856 3669247	116970	281491	580681	++++ 25.0	1.00 60.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Lin2	++++ 223335	++++ 554536	20011	41828	90989	++++ 50.0	++++ 120	4.00	10.0	20.0
Chloroform	FB	Ave	49978 2257857	101382 ++++	193561	457338	925055	0.500 25.0	1.00 ++++	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	++++ 523117	21900 1359981	41216	103610	208154	++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	58493 2563239	116919 ++++	219272	509068	1075773	0.500 25.0	1.00 ++++	2.00	5.00	10.0
Isobutyl alcohol	TBAd 9	Ave	++++ 685798	26578 1803331	54198	129950	279666	++++ 625	25.0 1500	50.0	125	250
Cyclohexane	FB	Ave	++++ 2690291	118705 6910349	219958	521823	1108756	++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,1-Dichloropropene	FB	Ave	50823 2120806	93990 ++++	179688	411959	854204	0.500 25.0	1.00 ++++	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	48270 2329857	97432 5960602	184383	439752	939285	0.500 25.0	1.00 60.0	2.00	5.00	10.0
n-Heptane	FB	Ave	++++ 2425012	103441 5955838	194963	470454	976810	++++ 25.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Benzene	FB	Ave	107524 5086174	216961 ++++	410563	958972	2010371	0.500 25.0	1.00 ++++	2.00	5.00	10.0
1,2-Dichloroethane	FB	Ave	28410 1335062	59054 3349322	110015	262692	536486	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	34390 1552765	67197 3887986	126947	303899	626813	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Methylcyclohexane	FB	Ave	++++ 2308155	105426 ++++	198152	465594	953324	++++ 25.0	1.00 ++++	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	25641 1139409	49118 2925525	92794	216514	447121	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,4-Dioxane	FB	Ave	1927 97144	3764 250144	8689	20498	41734	10.0 500	20.0 1200	40.0	100	200
Dibromomethane	FB	Ave	9993 497932	21410 1252149	40943	95818	199828	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Dichlorobromomethane	FB	Ave	28102 1473447	58622 3709133	114599	280148	581291	0.500 25.0	1.00 60.0	2.00	5.00	10.0
2-Chloroethyl vinyl ether	FB	Ave	6893 362345	12742 920293	26287	66732	145341	0.500 25.0	1.00 60.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	32375 1547751	62208 3872099	124933	296793	611749	0.500 25.0	1.00 60.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	26957 1338745	55520 3419701	105961	268545	552322	2.00 100	4.00 240	8.00	20.0	40.0
Toluene	FB	Ave	++++ 5395192	243404 ++++	452350	1051665	2162449	++++ 25.0	1.00 ++++	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	12972 713009	28007 1859386	53252	133320	284891	0.500 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,3-Dichloropropene	FB	Ave	23542 1254361	47840 3159390	95154	242109	501680	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1,2-Trichloroethane	FB	Ave	13125 643477	27770 1584239	53317	127820	255006	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Methyl n-butyl ketone (MNBK)	CBNZ d5	Ave	21286 914245	43143 2273714	76914	181025	376993	2.00 100	4.00 240	8.00	20.0	40.0
Tetrachloroethene	CBNZ d5	Ave	30168 1412286	61566 3593132	116940	279621	562939	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	23104 1073990	46957 2727154	86376	214054	434899	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chlorodibromomethane	CBNZ d5	Ave	13498 834681	30454 2138058	61843	151454	327065	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	12294 610583	26233 1516299	47786	120972	248991	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	75505 3412300	153455 8272445	285913	677571	1390223	0.500 25.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Ethylbenzene	CBNZ d5	Ave	50557 2231336	96502 5675390	185802	438096	908301	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	23736 1278162	45520 3407052	92662	236342	501786	0.500 25.0	1.00 60.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	115520 5167459	229912 +++++	437971	1010165	2118510	0.500 25.0	1.00 +++++	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	++++ 2451457	104065 6283704	198974	475135	993715	++++ 25.0	1.00 60.0	2.00	5.00	10.0
Styrene	CBNZ d5	Ave	71641 3783563	146956 9137825	283925	696983	1495807	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	144372 6459428	281268 +++++	545573	1298641	2677332	0.500 25.0	1.00 +++++	2.00	5.00	10.0
Bromoform	CBNZ d5	Ave	7069 464621	14226 1275773	30735	74597	173271	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin1	12993 526880	19165 1350834	34055	95642	199467	20.0 1000	40.0 2400	80.0	200	400
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	12995 639312	25732 1633009	49218	121225	253595	0.500 25.0	1.00 60.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Lin2	++++ 2058616	87205 5309376	164657	402971	837982	++++ 25.0	1.00 60.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin2	++++ 246425	10814 634535	18862	45577	99901	++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	4257 215173	7941 547419	17358	41190	86279	0.500 25.0	1.00 60.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	29896 1543215	59048 4049559	118703	289135	614493	0.500 25.0	1.00 60.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	119211 5565434	230930 +++++	451458	1094420	2294402	0.500 25.0	1.00 +++++	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	++++ 1759780	72603 4679199	135685	329769	705795	++++ 25.0	1.00 60.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	++++ 1755736	69645 4624528	137619	337213	700112	++++ 25.0	1.00 60.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	107530 5088306	210357 +++++	406115	978879	2055606	0.500 25.0	1.00 +++++	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	115548 5708986	231185 +++++	453873	1105823	2333184	0.500 25.0	1.00 +++++	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	++++ 1781188	70199 4618329	138442	335257	706235	++++ 25.0	1.00 60.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	139279 6591086	272852 +++++	527145	1301883	2736481	0.500 25.0	1.00 +++++	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	++++ 3103139	122752 7886807	244674	581822	1265023	++++ 25.0	1.00 60.0	2.00	5.00	10.0



FORM VI  
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 429583

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 GC Column: RTX-624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 09/13/2018 14:16 Calibration End Date: 09/13/2018 16:27 Calibration ID: 33683

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dichlorobenzene	DCBd 4	Ave	60583 3022488	121623 ++++	238819	580595	1222732	0.500 25.0	1.00 ++++	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	++++ 6305910	260914 ++++	523751	1267543	2652214	++++ 25.0	1.00 ++++	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	++++ 2497280	100995 ++++	197152	483153	1019225	++++ 25.0	1.00 ++++	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	++++ 130511	4838 352073	9620	24604	53134	++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	37563 1836158	75050 ++++	151771	373973	763941	0.500 25.0	1.00 ++++	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	++++ 1623699	71397 ++++	138952	336904	682055	++++ 25.0	1.00 ++++	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	++++ 2128132	86922 5530732	166662	420602	866281	++++ 25.0	1.00 60.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	++++ 1477056	60976 ++++	119533	307697	606958	++++ 25.0	1.00 ++++	2.00	5.00	10.0
Dibromofluoromethane (Surr)	FB	Lin2	++++ 1358485	54140 ++++	98065	230206	461161	++++ 30.0	1.00 ++++	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Lin1	++++ 1231415	50049 ++++	88663	213181	416833	++++ 30.0	1.00 ++++	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Lin2	++++ 5172344	205405 ++++	371500	886511	1780447	++++ 30.0	1.00 ++++	2.00	5.00	10.0
4-Bromofluorobenzene (Surr)	DCBd 4	Lin2	++++ 1911417	72917 ++++	138280	324149	660474	++++ 30.0	1.00 ++++	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD  
Lin2 = Linear 1/conc^2 ISTD



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-424541/26 Calibration Date: 08/02/2018 14:17  
Instrument ID: VMS\_MS1 Calib Start Date: 03/27/2018 13:20  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 03/27/2018 15:02  
Lab File ID: MS1\_5091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Lin		0.0024		782	1000	-21.8	55.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-424541/26 Calibration Date: 08/02/2018 14:17  
 Instrument ID: VMS\_MS1 Calib Start Date: 08/02/2018 11:55  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 08/02/2018 13:37  
 Lab File ID: MS1\_5091.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethanol	Ave	0.1784	0.1638		551	600	-8.2	55.0
Propene oxide	Ave	0.0133	0.0122		917	1000	-8.3	
2-Propanol	Ave	1.028	0.9534		92.7	100	-7.3	55.0
Acetonitrile	Ave	0.0097	0.0095		98.8	100	-1.2	55.0
Di-isopropyl ether (DIPE)	Ave	0.1841	0.1861		10.1	10.0	1.1	35.0
Chloroprene	Ave	0.4579	0.4298		9.39	10.0	-6.1	35.0
Tert-butyl ethyl ether	Ave	0.4989	0.4923		9.87	10.0	-1.3	35.0
Ethyl acetate	Ave	0.0760	0.0677		17.8	20.0	-10.9	55.0
Propionitrile	Ave	0.0106	0.0106		100	100	0.1	55.0
Methacrylonitrile	Ave	0.0505	0.0511		101	100	1.2	55.0
Tert-amyl methyl ether	Ave	0.3694	0.3645		9.87	10.0	-1.3	35.0
n-Butanol	Lin2		0.4365		224	250	-10.5	55.0
Methyl methacrylate	Ave	0.0234	0.0236		20.1	20.0	0.6	35.0
2-Nitropropane	Ave	0.0139	0.0125		18.1	20.0	-9.6	55.0
Tetrahydrothiophene	Ave	0.0250	0.0333		26.6	20.0	33.0	55.0
cis-1,4-Dichloro-2-butene	Ave	0.0730	0.0534		14.6	20.0	-26.8	55.0
1,2,3-Trimethylbenzene	Ave	3.523	3.322		9.43	10.0	-5.7	35.0
1,3,5-Trichlorobenzene	Ave	1.421	1.274		8.96	10.0	-10.4	50.0
Dibromofluoromethane (Surr)	Ave	0.2160	0.2120		9.82	10.0	-1.8	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.1835	0.1802		9.82	10.0	-1.8	35.0
Toluene-d8 (Surr)	Ave	4.811	4.602		9.57	10.0	-4.3	35.0
4-Bromofluorobenzene (Surr)	Ave	1.117	1.048		9.38	10.0	-6.2	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-430712/19 Calibration Date: 09/24/2018 14:29  
Instrument ID: VMS\_MS1 Calib Start Date: 09/24/2018 11:47  
GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 09/24/2018 13:48  
Lab File ID: MS1\_7330.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibromofluoromethane (Surr)	Lin2		0.2205		10.3	10.0	3.0	35.0
1,2-Dichloroethane-d4 (Surr)	Lin2		0.1905		10.3	10.0	2.6	35.0
Toluene-d8 (Surr)	Lin2		5.017		10.6	10.0	5.7	35.0
4-Bromofluorobenzene (Surr)	Lin2		1.210		10.7	10.0	6.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-430712/25 Calibration Date: 09/24/2018 18:23

Instrument ID: VMS\_MS1 Calib Start Date: 09/24/2018 11:47

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 09/24/2018 13:48

Lab File ID: MS1\_7338.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.2920		8.20	10.0	-18.0	55.0
Chloromethane	Ave	0.3546	0.3801	0.1000	10.7	10.0	7.2	35.0
Vinyl chloride	Ave	0.3419	0.3447		10.1	10.0	0.8	35.0
Bromomethane	Ave	0.2443	0.2691		11.0	10.0	10.2	35.0
Chloroethane	Ave	0.2626	0.2678		10.2	10.0	2.0	35.0
Dichlorofluoromethane	Ave	0.5803	0.6186		10.7	10.0	6.6	55.0
Trichlorofluoromethane	Ave	0.4486	0.4102		9.14	10.0	-8.6	50.0
Ethyl ether	Ave	0.1301	0.1456		11.2	10.0	11.9	35.0
Acrolein	Ave	0.0142	0.0142		59.1	59.3	-0.2	55.0
Acetone	Lin2		0.0243		43.3	40.0	8.3	55.0
Freon 113	Ave	0.1972	0.1587		8.05	10.0	-19.5	55.0
1,1-Dichloroethene	Ave	0.2654	0.2386		8.99	10.0	-10.1	35.0
Iodomethane	Ave	0.4046	0.4138		10.2	10.0	2.3	35.0
Methyl acetate	Lin1		0.0602		20.9	20.0	4.4	55.0
Allyl chloride	Ave	0.5392	0.5359		9.94	10.0	-0.6	35.0
Carbon disulfide	Ave	1.200	1.095		9.12	10.0	-8.8	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.267	1.265		99.9	100	-0.1	55.0
Methylene Chloride	Ave	0.2602	0.2685		10.3	10.0	3.2	35.0
Acrylonitrile	Ave	0.0308	0.0326		106	100	5.8	55.0
Methyl tert-butyl ether	Ave	0.3545	0.3842		10.8	10.0	8.4	35.0
trans-1,2-Dichloroethene	Ave	0.2927	0.2877		9.83	10.0	-1.7	35.0
Hexane	Ave	2.743	1.997		7.28	10.0	-27.2	35.0
Vinyl acetate	Ave	0.2233	0.2645		23.7	20.0	18.4	55.0
1,1-Dichloroethane	Ave	0.5406	0.5446	0.1000	10.1	10.0	0.7	35.0
Methyl ethyl ketone (MEK)	Ave	0.0326	0.0337		41.4	40.0	3.4	55.0
cis-1,2-Dichloroethene	Ave	0.2892	0.2965		10.3	10.0	2.5	35.0
2,2-Dichloropropane	Ave	0.4405	0.4294		9.75	10.0	-2.5	35.0
Chlorobromomethane	Ave	0.0859	0.0905		10.5	10.0	5.4	35.0
Chloroform	Ave	0.4578	0.4662		10.2	10.0	1.8	35.0
Tetrahydrofuran	Ave	0.0247	0.0245		19.9	20.0	-0.7	55.0
Isobutyl alcohol	Ave	0.4670	0.4315		231	250	-7.6	55.0
1,1,1-Trichloroethane	Ave	0.4514	0.4186		9.27	10.0	-7.3	35.0
Cyclohexane	Ave	0.6471	0.4867		7.52	10.0	-24.8	35.0
1,1-Dichloropropene	Ave	0.4424	0.3917		8.85	10.0	-11.5	35.0
Carbon tetrachloride	Ave	0.3800	0.3327		8.76	10.0	-12.4	35.0
1,2-Dichloroethane	Ave	0.2311	0.2359		10.2	10.0	2.1	35.0
Benzene	Ave	1.166	1.144		9.81	10.0	-1.9	35.0
n-Heptane	Ave	0.5725	0.4175		7.29	10.0	-27.1	50.0
Trichloroethene	Ave	0.2892	0.2714		9.38	10.0	-6.2	35.0
1,2-Dichloropropane	Ave	0.2650	0.2739		10.3	10.0	3.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-430712/25 Calibration Date: 09/24/2018 18:23

Instrument ID: VMS\_MS1 Calib Start Date: 09/24/2018 11:47

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 09/24/2018 13:48

Lab File ID: MS1\_7338.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.5214	0.3778		7.25	10.0	-27.5	35.0
1,4-Dioxane	Ave	0.0008	0.0008		214	200	7.0	55.0
Dibromomethane	Ave	0.0845	0.0872		10.3	10.0	3.2	35.0
Dichlorobromomethane	Ave	0.2742	0.2861		10.4	10.0	4.3	35.0
2-Chloroethyl vinyl ether	Ave	0.0690	0.0698		10.1	10.0	1.1	55.0
cis-1,3-Dichloropropene	Ave	1.585	1.747		11.0	10.0	10.2	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0736	0.0809		44.0	40.0	9.9	55.0
Toluene	Ave	1.197	1.145		9.56	10.0	-4.4	35.0
Ethyl methacrylate	Ave	0.6679	0.6987		10.5	10.0	4.6	35.0
trans-1,3-Dichloropropene	Ave	0.2303	0.2463		10.7	10.0	7.0	35.0
1,1,2-Trichloroethane	Ave	0.1140	0.1192		10.5	10.0	4.6	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2492	0.2658		42.7	40.0	6.7	55.0
1,3-Dichloropropane	Ave	1.106	1.125		10.2	10.0	1.7	35.0
Tetrachloroethene	Ave	1.066	0.9580		8.98	10.0	-10.2	35.0
Chlorodibromomethane	Ave	0.6496	0.7038		10.8	10.0	8.3	35.0
1,2-Dibromoethane	Ave	0.4999	0.5144		10.3	10.0	2.9	35.0
Chlorobenzene	Ave	3.276	3.288	0.3000	10.0	10.0	0.4	35.0
1,1,1,2-Tetrachloroethane	Ave	0.9760	1.036		10.6	10.0	6.2	35.0
Ethylbenzene	Ave	2.119	2.033		9.59	10.0	-4.1	35.0
m-Xylene & p-Xylene	Ave	2.561	2.497		9.75	10.0	-2.5	35.0
o-Xylene	Ave	2.368	2.351		9.93	10.0	-0.7	35.0
Styrene	Ave	3.603	3.650		10.1	10.0	1.3	35.0
Bromoform	Lin2		0.2863	0.1000	9.90	10.0	-1.0	35.0
Isopropylbenzene	Ave	4.809	4.555		9.47	10.0	-5.3	35.0
Cyclohexanone	Ave	0.0151	0.0152		403	400	0.7	35.0
1,1,2,2-Tetrachloroethane	Ave	0.3927	0.4112	0.3000	10.5	10.0	4.7	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1035	0.1122		10.8	10.0	8.4	55.0
1,2,3-Trichloropropane	Ave	0.1084	0.1146		10.6	10.0	5.7	35.0
Bromobenzene	Ave	0.7880	0.8064		10.2	10.0	2.3	35.0
N-Propylbenzene	Ave	1.327	1.250		9.42	10.0	-5.8	35.0
1,3,5-Trimethylbenzene	Ave	3.980	3.890		9.78	10.0	-2.2	35.0
2-Chlorotoluene	Ave	1.012	1.008		9.96	10.0	-0.4	35.0
4-Chlorotoluene	Ave	1.014	1.007		9.93	10.0	-0.7	35.0
tert-Butylbenzene	Ave	3.935	3.702		9.41	10.0	-5.9	35.0
1,2,4-Trimethylbenzene	Ave	3.921	3.834		9.78	10.0	-2.2	35.0
sec-Butylbenzene	Ave	1.048	0.9658		9.22	10.0	-7.8	35.0
4-Isopropyltoluene	Ave	4.403	4.222		9.59	10.0	-4.1	35.0
1,3-Dichlorobenzene	Ave	1.729	1.779		10.3	10.0	2.9	35.0
1,4-Dichlorobenzene	Ave	1.698	1.701		10.0	10.0	0.1	35.0
n-Butylbenzene	Ave	4.443	4.184		9.42	10.0	-5.8	35.0
1,2-Dichlorobenzene	Ave	1.354	1.400		10.3	10.0	3.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-430712/25 Calibration Date: 09/24/2018 18:23  
 Instrument ID: VMS\_MS1 Calib Start Date: 09/24/2018 11:47  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 09/24/2018 13:48  
 Lab File ID: MS1\_7338.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin2		0.0518		9.78	10.0	-2.2	55.0
1,2,4-Trichlorobenzene	Ave	0.9241	0.9707		10.5	10.0	5.0	35.0
Hexachlorobutadiene	Ave	0.7462	0.7092		9.51	10.0	-4.9	35.0
Naphthalene	Ave	1.175	1.221		10.4	10.0	3.8	35.0
1,2,3-Trichlorobenzene	Ave	0.6772	0.7270		10.7	10.0	7.4	35.0
1,2-Dichloroethane-d4 (Surr)	Lin2				0.00000 0	12.3	-100.0*	35.0
4-Bromofluorobenzene (Surr)	Lin2				0.00000 0	12.3	-100.0*	35.0
Dibromofluoromethane (Surr)	Lin2				0.00000 0	12.3	-100.0*	35.0
Toluene-d8 (Surr)	Lin2				0.00000 0	12.3	-100.0*	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-431297/2 Calibration Date: 09/27/2018 17:45

Instrument ID: VMS\_MS1 Calib Start Date: 09/24/2018 11:47

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 09/24/2018 13:48

Lab File ID: MS1\_7518.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Lin1		0.3992		11.1	10.0	11.4	50.0
Chloromethane	Ave	0.3546	0.3665	0.1000	10.3	10.0	3.3	35.0
Vinyl chloride	Ave	0.3419	0.3948		11.5	10.0	15.5	20.0
Bromomethane	Ave	0.2443	0.2863		11.7	10.0	17.2	35.0
Chloroethane	Ave	0.2626	0.3023		11.5	10.0	15.1	35.0
Dichlorofluoromethane	Ave	0.5803	0.6671		11.5	10.0	14.9	50.0
Trichlorofluoromethane	Ave	0.4486	0.5555		12.4	10.0	23.8	50.0
Ethyl ether	Ave	0.1301	0.1432		11.0	10.0	10.0	35.0
Acrolein	Ave	0.0142	0.0143		59.5	59.3	0.4	50.0
Acetone	Lin2		0.0236		41.9	40.0	4.7	50.0
Freon 113	Ave	0.1972	0.2445		12.4	10.0	24.0	50.0
1,1-Dichloroethene	Ave	0.2654	0.3182		12.0	10.0	19.9	20.0
Iodomethane	Ave	0.4046	0.4615		11.4	10.0	14.1	35.0
Methyl acetate	Lin1		0.0633		22.0	20.0	10.0	50.0
Allyl chloride	Ave	0.5392	0.5883		10.9	10.0	9.1	35.0
Carbon disulfide	Ave	1.200	1.396		11.6	10.0	16.3	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	1.267	1.268		100	100	0.0	50.0
Methylene Chloride	Ave	0.2602	0.2770		10.6	10.0	6.4	35.0
Acrylonitrile	Ave	0.0308	0.0340		111	100	10.5	50.0
Methyl tert-butyl ether	Ave	0.3545	0.3924		11.1	10.0	10.7	35.0
trans-1,2-Dichloroethene	Ave	0.2927	0.3354		11.5	10.0	14.6	35.0
Hexane	Ave	2.743	3.183		11.6	10.0	16.0	35.0
Vinyl acetate	Ave	0.2233	0.2542		22.8	20.0	13.8	50.0
1,1-Dichloroethane	Ave	0.5406	0.6136	0.1000	11.4	10.0	13.5	35.0
Methyl ethyl ketone (MEK)	Ave	0.0326	0.0320		39.3	40.0	-1.9	50.0
cis-1,2-Dichloroethene	Ave	0.2892	0.3217		11.1	10.0	11.2	35.0
2,2-Dichloropropane	Ave	0.4405	0.5339		12.1	10.0	21.2	35.0
Chlorobromomethane	Ave	0.0859	0.0927		10.8	10.0	7.9	35.0
Chloroform	Ave	0.4578	0.5087		11.1	10.0	11.1	20.0
Tetrahydrofuran	Ave	0.0247	0.0234		19.0	20.0	-5.1	50.0
Isobutyl alcohol	Ave	0.4670	0.4032		216	250	-13.7	50.0
1,1,1-Trichloroethane	Ave	0.4514	0.5199		11.5	10.0	15.2	35.0
Cyclohexane	Ave	0.6471	0.7560		11.7	10.0	16.8	35.0
1,1-Dichloropropene	Ave	0.4424	0.5209		11.8	10.0	17.7	35.0
Carbon tetrachloride	Ave	0.3800	0.4455		11.7	10.0	17.2	35.0
1,2-Dichloroethane	Ave	0.2311	0.2564		11.1	10.0	10.9	35.0
Benzene	Ave	1.166	1.292		11.1	10.0	10.8	35.0
n-Heptane	Ave	0.5725	0.6552		11.4	10.0	14.4	50.0
Trichloroethene	Ave	0.2892	0.3281		11.3	10.0	13.4	35.0
1,2-Dichloropropane	Ave	0.2650	0.2865		10.8	10.0	8.1	20.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-431297/2 Calibration Date: 09/27/2018 17:45

Instrument ID: VMS\_MS1 Calib Start Date: 09/24/2018 11:47

GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 09/24/2018 13:48

Lab File ID: MS1\_7518.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methylcyclohexane	Ave	0.5214	0.6020		11.5	10.0	15.5	35.0
1,4-Dioxane	Ave	0.0008	0.0008		209	200	4.3	50.0
Dibromomethane	Ave	0.0845	0.0921		10.9	10.0	8.9	35.0
Dichlorobromomethane	Ave	0.2742	0.2917		10.6	10.0	6.3	35.0
2-Chloroethyl vinyl ether	Ave	0.0690	0.0719		10.4	10.0	4.2	50.0
cis-1,3-Dichloropropene	Ave	1.585	1.758		11.1	10.0	10.9	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0736	0.0770		41.8	40.0	4.6	50.0
Toluene	Ave	1.197	1.310		10.9	10.0	9.4	20.0
Ethyl methacrylate	Ave	0.6679	0.7059		10.6	10.0	5.7	35.0
trans-1,3-Dichloropropene	Ave	0.2303	0.2545		11.1	10.0	10.5	35.0
1,1,2-Trichloroethane	Ave	0.1140	0.1204		10.6	10.0	5.6	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2492	0.2488		39.9	40.0	-0.2	50.0
1,3-Dichloropropane	Ave	1.106	1.215		11.0	10.0	9.9	35.0
Tetrachloroethene	Ave	1.066	1.210		11.3	10.0	13.4	35.0
Chlorodibromomethane	Ave	0.6496	0.6553		10.1	10.0	0.9	35.0
1,2-Dibromoethane	Ave	0.4999	0.5442		10.9	10.0	8.9	35.0
Chlorobenzene	Ave	3.276	3.598	0.3000	11.0	10.0	9.8	35.0
1,1,1,2-Tetrachloroethane	Ave	0.9760	1.054		10.8	10.0	8.0	35.0
Ethylbenzene	Ave	2.119	2.341		11.0	10.0	10.5	20.0
m-Xylene & p-Xylene	Ave	2.561	2.820		11.0	10.0	10.1	35.0
o-Xylene	Ave	2.368	2.584		10.9	10.0	9.1	35.0
Styrene	Ave	3.603	3.851		10.7	10.0	6.9	35.0
Bromoform	Lin2		0.2631	0.1000	9.12	10.0	-8.8	35.0
Isopropylbenzene	Ave	4.809	5.458		11.3	10.0	13.5	35.0
Cyclohexanone	Ave	0.0151	0.0143		381	400	-4.8	50.0
1,1,2,2-Tetrachloroethane	Ave	0.3927	0.4211	0.3000	10.7	10.0	7.2	35.0
trans-1,4-Dichloro-2-butene	Ave	0.1035	0.1097		10.6	10.0	6.0	50.0
1,2,3-Trichloropropane	Ave	0.1084	0.1196		11.0	10.0	10.4	35.0
Bromobenzene	Ave	0.7880	0.8681		11.0	10.0	10.2	35.0
N-Propylbenzene	Ave	1.327	1.499		11.3	10.0	12.9	35.0
1,3,5-Trimethylbenzene	Ave	3.980	4.507		11.3	10.0	13.3	35.0
2-Chlorotoluene	Ave	1.012	1.158		11.5	10.0	14.5	35.0
4-Chlorotoluene	Ave	1.014	1.127		11.1	10.0	11.1	35.0
tert-Butylbenzene	Ave	3.935	4.395		11.2	10.0	11.7	35.0
1,2,4-Trimethylbenzene	Ave	3.921	4.366		11.1	10.0	11.3	35.0
sec-Butylbenzene	Ave	1.048	1.203		11.5	10.0	14.8	35.0
4-Isopropyltoluene	Ave	4.403	5.013		11.4	10.0	13.8	35.0
1,3-Dichlorobenzene	Ave	1.729	1.872		10.8	10.0	8.2	35.0
1,4-Dichlorobenzene	Ave	1.698	1.788		10.5	10.0	5.3	35.0
n-Butylbenzene	Ave	4.443	5.053		11.4	10.0	13.7	35.0
1,2-Dichlorobenzene	Ave	1.354	1.446		10.7	10.0	6.8	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-431297/2 Calibration Date: 09/27/2018 17:45  
 Instrument ID: VMS\_MS1 Calib Start Date: 09/24/2018 11:47  
 GC Column: DB-624 (60.25) ID: 0.25 (mm) Calib End Date: 09/24/2018 13:48  
 Lab File ID: MS1\_7518.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Lin2		0.0436		8.30	10.0	-17.0	50.0
1,2,4-Trichlorobenzene	Ave	0.9241	1.001		10.8	10.0	8.3	35.0
Hexachlorobutadiene	Ave	0.7462	0.8389		11.2	10.0	12.4	35.0
Naphthalene	Ave	1.175	1.192		10.1	10.0	1.4	35.0
1,2,3-Trichlorobenzene	Ave	0.6772	0.7402		10.9	10.0	9.3	35.0
Dibromofluoromethane (Surr)	Lin2		0.2103		13.7	13.8	-0.0	35.0
1,2-Dichloroethane-d4 (Surr)	Lin2		0.1841		13.9	13.8	1.2	35.0
Toluene-d8 (Surr)	Lin2		4.922		14.6	13.8	6.2	35.0
4-Bromofluorobenzene (Surr)	Lin2		1.138		14.1	13.8	2.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-425296/26 Calibration Date: 08/08/2018 15:31  
 Instrument ID: VMS\_MS9 Calib Start Date: 08/08/2018 13:00  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 08/08/2018 14:48  
 Lab File ID: MS9\_3398.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Ethylene oxide	Ave	0.0028	0.0029		1010	1000	1.2	55.0
Ethanol	Ave	0.1656	0.1520		551	600	-8.2	55.0
Propene oxide	Ave	0.0117	0.0113		967	1000	-3.3	
2-Propanol	Ave	1.041	1.021		98.1	100	-1.9	55.0
Acetonitrile	Ave	0.0115	0.0112		97.2	100	-2.8	55.0
Di-isopropyl ether (DIPE)	Ave	0.2051	0.1971		9.61	10.0	-3.9	35.0
Chloroprene	Ave	0.6410	0.6166		9.62	10.0	-3.8	35.0
Tert-butyl ethyl ether	Ave	0.6633	0.6476		9.76	10.0	-2.4	35.0
Ethyl acetate	Ave	0.0833	0.0762		18.3	20.0	-8.5	55.0
Propionitrile	Ave	0.0115	0.0106		92.4	100	-7.6	55.0
Methacrylonitrile	Ave	0.0624	0.0615		98.6	100	-1.4	55.0
Tert-amyl methyl ether	Ave	0.5121	0.4867		9.50	10.0	-5.0	35.0
n-Butanol	Ave	0.3913	0.4133		264	250	5.6	55.0
Methyl methacrylate	Ave	0.0252	0.0237		18.7	20.0	-6.3	35.0
2-Nitropropane	Ave	0.0219	0.0209		19.0	20.0	-4.8	55.0
Tetrahydrothiophene	Ave	0.0340	0.0379		22.3	20.0	11.3	55.0
cis-1,4-Dichloro-2-butene	Ave	0.0674	0.0660		19.6	20.0	-2.1	55.0
1,2,3-Trimethylbenzene	Ave	4.033	3.855		9.56	10.0	-4.4	35.0
1,3,5-Trichlorobenzene	Ave	1.756	1.647		9.38	10.0	-6.2	50.0
Dibromofluoromethane (Surr)	Ave	0.2688	0.2641		9.82	10.0	-1.8	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2293	0.2273		9.91	10.0	-0.9	35.0
Toluene-d8 (Surr)	Ave	5.858	5.867		10.0	10.0	0.1	35.0
4-Bromofluorobenzene (Surr)	Ave	1.234	1.193		9.67	10.0	-3.3	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-429695/12 Calibration Date: 09/14/2018 10:39

Instrument ID: VMS\_MS9 Calib Start Date: 09/13/2018 14:16

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 09/13/2018 16:27

Lab File ID: MS9\_4871.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.6591	0.7769		11.8	10.0	17.9	55.0
Chloromethane	Ave	0.5838	0.6484	0.1000	11.1	10.0	11.1	35.0
Vinyl chloride	Ave	0.6556	0.7394		11.3	10.0	12.8	35.0
Bromomethane	Ave	0.4759	0.4893		10.3	10.0	2.8	35.0
Chloroethane	Ave	0.3672	0.4106		11.2	10.0	11.8	35.0
Dichlorofluoromethane	Ave	0.9474	1.031		10.9	10.0	8.8	55.0
Trichlorofluoromethane	Ave	0.9266	1.021		11.0	10.0	10.2	50.0
Ethyl ether	Ave	0.1663	0.1639		9.86	10.0	-1.4	35.0
Acrolein	Ave	0.0188	0.0159		50.1	59.3	-15.5	55.0
Freon 113	Ave	0.4425	0.4351		9.83	10.0	-1.7	55.0
1,1-Dichloroethene	Ave	0.4166	0.4432		10.6	10.0	6.4	35.0
Acetone	Lin2		0.0339		47.3	40.0	18.3	55.0
Iodomethane	Ave	0.6825	0.6853		10.0	10.0	0.4	35.0
Methyl acetate	Lin2		0.1125		25.1	20.0	25.4	55.0
Allyl chloride	Ave	0.6214	0.6790		10.9	10.0	9.3	35.0
Carbon disulfide	Ave	1.463	1.563		10.7	10.0	6.8	55.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0115	0.0104		90.0	100	-10.0	55.0
Methylene Chloride	Ave	0.3416	0.3409		9.98	10.0	-0.2	35.0
Methyl tert-butyl ether	Ave	0.5666	0.5171		9.13	10.0	-8.7	35.0
trans-1,2-Dichloroethene	Ave	0.4373	0.4576		10.5	10.0	4.6	35.0
Acrylonitrile	Ave	0.0359	0.0325		90.4	100	-9.6	55.0
Hexane	Ave	2.513	2.319		9.23	10.0	-7.7	35.0
Vinyl acetate	Ave	0.2714	0.2698		19.9	20.0	-0.6	55.0
1,1-Dichloroethane	Ave	0.7357	0.6935	0.1000	9.43	10.0	-5.7	35.0
Methyl ethyl ketone (MEK)	Lin1		0.0427		45.6	40.0	14.1	55.0
2,2-Dichloropropane	Ave	0.7832	0.7961		10.2	10.0	1.6	35.0
cis-1,2-Dichloroethene	Ave	0.4219	0.4127		9.78	10.0	-2.2	35.0
Tetrahydrofuran	Lin2		0.0284		18.8	20.0	-6.1	55.0
Chloroform	Ave	0.7154	0.6666		9.32	10.0	-6.8	35.0
Chlorobromomethane	Ave	0.1503	0.1392		9.26	10.0	-7.4	35.0
1,1,1-Trichloroethane	Ave	0.8194	0.8210		10.0	10.0	0.2	35.0
Isobutyl alcohol	Ave	1.034	1.104		267	250	6.7	55.0
Cyclohexane	Ave	0.7864	0.8132		10.3	10.0	3.4	35.0
1,1-Dichloropropene	Ave	0.6730	0.6392		9.50	10.0	-5.0	35.0
Carbon tetrachloride	Ave	0.6782	0.7257		10.7	10.0	7.0	35.0
n-Heptane	Ave	0.6952	0.7234		10.4	10.0	4.1	50.0
Benzene	Ave	1.540	1.440		9.35	10.0	-6.5	35.0
1,2-Dichloroethane	Ave	0.3976	0.3735		9.39	10.0	-6.1	35.0
Trichloroethene	Ave	0.4632	0.4450		9.61	10.0	-3.9	35.0
Methylcyclohexane	Ave	0.7196	0.6869		9.55	10.0	-4.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICV 280-429695/12 Calibration Date: 09/14/2018 10:39

Instrument ID: VMS\_MS9 Calib Start Date: 09/13/2018 14:16

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 09/13/2018 16:27

Lab File ID: MS9\_4871.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.3386	0.3179		9.39	10.0	-6.1	35.0
1,4-Dioxane	Ave	0.0015	0.0013		179	200	-10.6	55.0
Dibromomethane	Ave	0.1457	0.1354		9.29	10.0	-7.1	35.0
Dichlorobromomethane	Ave	0.4173	0.4169		9.99	10.0	-0.1	35.0
2-Chloroethyl vinyl ether	Ave	0.0996	0.0905		9.09	10.0	-9.1	55.0
cis-1,3-Dichloropropene	Ave	1.615	1.544		9.56	10.0	-4.4	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0980	0.0919		37.5	40.0	-6.3	55.0
Toluene	Ave	1.648	1.592		9.66	10.0	-3.4	35.0
Ethyl methacrylate	Ave	0.7197	0.6255		8.69	10.0	-13.1	35.0
trans-1,3-Dichloropropene	Ave	0.3523	0.3290		9.34	10.0	-6.6	35.0
1,1,2-Trichloroethane	Ave	0.1893	0.1785		9.43	10.0	-5.7	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2530	0.2298		36.3	40.0	-9.2	55.0
Tetrachloroethene	Ave	1.515	1.499		9.90	10.0	-1.0	35.0
1,3-Dichloropropane	Ave	1.152	1.003		8.70	10.0	-13.0	35.0
Chlorodibromomethane	Ave	0.8109	0.7769		9.58	10.0	-4.2	35.0
1,2-Dibromoethane	Ave	0.6422	0.5683		8.85	10.0	-11.5	35.0
Chlorobenzene	Ave	3.698	3.475	0.3000	9.40	10.0	-6.0	35.0
Ethylbenzene	Ave	2.419	2.312		9.56	10.0	-4.4	35.0
1,1,1,2-Tetrachloroethane	Ave	1.268	1.226		9.67	10.0	-3.3	35.0
m-Xylene & p-Xylene	Ave	5.796	5.438		9.38	10.0	-6.2	35.0
o-Xylene	Ave	2.557	2.491		9.74	10.0	-2.6	35.0
Styrene	Ave	3.787	3.678		9.71	10.0	-2.9	35.0
Bromoform	Ave	0.4234	0.4068	0.1000	9.61	10.0	-3.9	35.0
Isopropylbenzene	Ave	4.510	4.225		9.37	10.0	-6.3	35.0
Cyclohexanone	Lin1		0.0117		376	400	-6.0	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4030	0.3666	0.3000	9.10	10.0	-9.0	35.0
trans-1,4-Dichloro-2-butene	Lin2		0.1437		10.3	10.0	3.1	55.0
N-Propylbenzene	Lin2		1.320		11.1	10.0	11.3	35.0
1,2,3-Trichloropropane	Ave	0.1344	0.1219		9.06	10.0	-9.4	35.0
Bromobenzene	Ave	0.9587	0.9008		9.40	10.0	-6.0	35.0
1,3,5-Trimethylbenzene	Ave	3.776	3.544		9.39	10.0	-6.1	35.0
2-Chlorotoluene	Ave	1.088	1.081		9.93	10.0	-0.7	35.0
4-Chlorotoluene	Ave	1.082	1.074		9.93	10.0	-0.7	35.0
tert-Butylbenzene	Ave	3.409	3.220		9.44	10.0	-5.6	35.0
1,2,4-Trimethylbenzene	Ave	3.787	3.535		9.33	10.0	-6.7	35.0
sec-Butylbenzene	Ave	1.088	1.124		10.3	10.0	3.3	35.0
4-Isopropyltoluene	Ave	4.456	4.312		9.68	10.0	-3.2	35.0
1,3-Dichlorobenzene	Ave	1.904	1.868		9.81	10.0	-1.9	35.0
1,4-Dichlorobenzene	Ave	1.991	1.817		9.12	10.0	-8.8	35.0
n-Butylbenzene	Ave	4.200	4.229		10.1	10.0	0.7	35.0
1,2-Dichlorobenzene	Ave	1.615	1.496		9.26	10.0	-7.4	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-429695/12 Calibration Date: 09/14/2018 10:39  
 Instrument ID: VMS\_MS9 Calib Start Date: 09/13/2018 14:16  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 09/13/2018 16:27  
 Lab File ID: MS9\_4871.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.0788	0.0703		8.92	10.0	-10.8	55.0
1,2,4-Trichlorobenzene	Ave	1.244	1.102		8.85	10.0	-11.5	35.0
Hexachlorobutadiene	Ave	1.111	1.063		9.57	10.0	-4.3	35.0
Naphthalene	Ave	1.328	1.148		8.65	10.0	-13.5	35.0
1,2,3-Trichlorobenzene	Ave	0.9807	0.8524		8.69	10.0	-13.1	35.0
Dibromofluoromethane (Surr)	Lin2		0.3138		10.3	10.8	-3.9	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2682		10.1	10.8	-6.2	35.0
Toluene-d8 (Surr)	Lin2		4.468		10.7	10.8	-0.8	35.0
4-Bromofluorobenzene (Surr)	Lin2		1.036		11.4	10.8	5.9	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-431136/2 Calibration Date: 09/26/2018 22:19

Instrument ID: VMS\_MS9 Calib Start Date: 09/13/2018 14:16

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 09/13/2018 16:27

Lab File ID: MS9\_5470.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.6591	0.5057		7.67	10.0	-23.3	50.0
Chloromethane	Ave	0.5838	0.4953	0.1000	8.48	10.0	-15.2	35.0
Vinyl chloride	Ave	0.6556	0.5288		8.07	10.0	-19.3	20.0
Bromomethane	Ave	0.4759	0.4029		8.47	10.0	-15.3	35.0
Chloroethane	Ave	0.3672	0.3255		8.86	10.0	-11.4	35.0
Dichlorofluoromethane	Ave	0.9474	0.7763		8.19	10.0	-18.1	50.0
Trichlorofluoromethane	Ave	0.9266	0.7390		7.98	10.0	-20.2	50.0
Ethyl ether	Ave	0.1663	0.1413		8.50	10.0	-15.0	35.0
Acrolein	Ave	0.0188	0.0140		44.4	59.3	-25.1	50.0
Freon 113	Ave	0.4425	0.3603		8.14	10.0	-18.6	50.0
1,1-Dichloroethene	Ave	0.4166	0.3697		8.87	10.0	-11.3	20.0
Acetone	Lin2		0.0270		37.0	40.0	-7.6	50.0
Iodomethane	Ave	0.6825	0.6236		9.14	10.0	-8.6	35.0
Methyl acetate	Lin2		0.0629		12.5	20.0	-37.3	50.0
Allyl chloride	Ave	0.6214	0.5811		9.35	10.0	-6.5	35.0
Carbon disulfide	Ave	1.463	1.407		9.61	10.0	-3.9	50.0
Tert-butyl alcohol (2-methyl-2-propanol)	Ave	0.0115	0.0085		73.8	100	-26.2	50.0
Methylene Chloride	Ave	0.3416	0.3154		9.23	10.0	-7.7	35.0
Methyl tert-butyl ether	Ave	0.5666	0.4424		7.81	10.0	-21.9	35.0
trans-1,2-Dichloroethene	Ave	0.4373	0.3949		9.03	10.0	-9.7	35.0
Acrylonitrile	Ave	0.0359	0.0283		78.7	100	-21.3	50.0
Hexane	Ave	2.513	2.003		7.97	10.0	-20.3	35.0
Vinyl acetate	Ave	0.2714	0.2298		16.9	20.0	-15.3	50.0
1,1-Dichloroethane	Ave	0.7357	0.6254	0.1000	8.50	10.0	-15.0	35.0
Methyl ethyl ketone (MEK)	Lin1		0.0340		35.4	40.0	-11.6	50.0
2,2-Dichloropropane	Ave	0.7832	0.6742		8.61	10.0	-13.9	35.0
cis-1,2-Dichloroethene	Ave	0.4219	0.3761		8.91	10.0	-10.9	35.0
Tetrahydrofuran	Lin2		0.0245		16.0	20.0	-20.0	50.0
Chloroform	Ave	0.7154	0.5913		8.26	10.0	-17.4	20.0
Chlorobromomethane	Ave	0.1503	0.1321		8.79	10.0	-12.1	35.0
1,1,1-Trichloroethane	Ave	0.8194	0.6798		8.30	10.0	-17.0	35.0
Isobutyl alcohol	Ave	1.034	1.113		269	250	7.6	50.0
Cyclohexane	Ave	0.7864	0.6807		8.66	10.0	-13.4	35.0
1,1-Dichloropropene	Ave	0.6730	0.5638		8.38	10.0	-16.2	35.0
Carbon tetrachloride	Ave	0.6782	0.6123		9.03	10.0	-9.7	35.0
n-Heptane	Ave	0.6952	0.5961		8.57	10.0	-14.3	50.0
Benzene	Ave	1.540	1.308		8.49	10.0	-15.1	35.0
1,2-Dichloroethane	Ave	0.3976	0.3356		8.44	10.0	-15.6	35.0
Trichloroethene	Ave	0.4632	0.4186		9.04	10.0	-9.6	35.0
Methylcyclohexane	Ave	0.7196	0.5936		8.25	10.0	-17.5	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCV 280-431136/2 Calibration Date: 09/26/2018 22:19

Instrument ID: VMS\_MS9 Calib Start Date: 09/13/2018 14:16

GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 09/13/2018 16:27

Lab File ID: MS9\_5470.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloropropane	Ave	0.3386	0.2941		8.69	10.0	-13.1	20.0
1,4-Dioxane	Ave	0.0015	0.0011		148	200	-26.2	50.0
Dibromomethane	Ave	0.1457	0.1232		8.45	10.0	-15.5	35.0
Dichlorobromomethane	Ave	0.4173	0.3753		8.99	10.0	-10.1	35.0
2-Chloroethyl vinyl ether	Ave	0.0996	0.0796		7.99	10.0	-20.1	50.0
cis-1,3-Dichloropropene	Ave	1.615	1.525		9.44	10.0	-5.6	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0980	0.0756		30.8	40.0	-22.9	50.0
Toluene	Ave	1.648	1.478		8.97	10.0	-10.3	20.0
Ethyl methacrylate	Ave	0.7197	0.5825		8.09	10.0	-19.1	35.0
trans-1,3-Dichloropropene	Ave	0.3523	0.3191		9.06	10.0	-9.4	35.0
1,1,2-Trichloroethane	Ave	0.1893	0.1594		8.42	10.0	-15.8	35.0
Methyl n-butyl ketone (MNBK)	Ave	0.2530	0.1884		29.8	40.0	-25.5	50.0
Tetrachloroethene	Ave	1.515	1.444		9.54	10.0	-4.6	35.0
1,3-Dichloropropane	Ave	1.152	1.030		8.94	10.0	-10.6	35.0
Chlorodibromomethane	Ave	0.8109	0.7876		9.71	10.0	-2.9	35.0
1,2-Dibromoethane	Ave	0.6422	0.5753		8.96	10.0	-10.4	35.0
Chlorobenzene	Ave	3.698	3.505	0.3000	9.48	10.0	-5.2	35.0
Ethylbenzene	Ave	2.419	2.263		9.36	10.0	-6.4	20.0
1,1,1,2-Tetrachloroethane	Ave	1.268	1.188		9.37	10.0	-6.3	35.0
m-Xylene & p-Xylene	Ave	5.796	5.224		9.01	10.0	-9.9	35.0
o-Xylene	Ave	2.557	2.469		9.65	10.0	-3.5	35.0
Styrene	Ave	3.787	3.512		9.27	10.0	-7.3	35.0
Bromoform	Ave	0.4234	0.3972	0.1000	9.38	10.0	-6.2	35.0
Isopropylbenzene	Ave	4.510	4.095		9.08	10.0	-9.2	35.0
Cyclohexanone	Lin1		0.0104		333	400	-16.7	50.0
1,1,2,2-Tetrachloroethane	Ave	0.4030	0.3524	0.3000	8.74	10.0	-12.6	35.0
trans-1,4-Dichloro-2-butene	Lin2		0.1330		9.50	10.0	-5.0	50.0
N-Propylbenzene	Lin2		1.315		11.1	10.0	10.8	35.0
1,2,3-Trichloropropane	Ave	0.1344	0.1138		8.47	10.0	-15.3	35.0
Bromobenzene	Ave	0.9587	0.9020		9.41	10.0	-5.9	35.0
1,3,5-Trimethylbenzene	Ave	3.776	3.515		9.31	10.0	-6.9	35.0
2-Chlorotoluene	Ave	1.088	1.092		10.0	10.0	0.3	35.0
4-Chlorotoluene	Ave	1.082	1.068		9.87	10.0	-1.3	35.0
tert-Butylbenzene	Ave	3.409	3.120		9.15	10.0	-8.5	35.0
1,2,4-Trimethylbenzene	Ave	3.787	3.524		9.30	10.0	-7.0	35.0
sec-Butylbenzene	Ave	1.088	1.106		10.2	10.0	1.7	35.0
4-Isopropyltoluene	Ave	4.456	4.165		9.35	10.0	-6.5	35.0
1,3-Dichlorobenzene	Ave	1.904	1.854		9.74	10.0	-2.6	35.0
1,4-Dichlorobenzene	Ave	1.991	1.780		8.94	10.0	-10.6	35.0
n-Butylbenzene	Ave	4.200	4.041		9.62	10.0	-3.8	35.0
1,2-Dichlorobenzene	Ave	1.615	1.458		9.03	10.0	-9.7	35.0



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-431136/2 Calibration Date: 09/26/2018 22:19  
 Instrument ID: VMS\_MS9 Calib Start Date: 09/13/2018 14:16  
 GC Column: RTX-624 ID: 0.53 (mm) Calib End Date: 09/13/2018 16:27  
 Lab File ID: MS9\_5470.D Conc. Units: ug/L Heated Purge: (Y/N) Y

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dibromo-3-Chloropropane	Ave	0.0788	0.0639		8.10	10.0	-19.0	50.0
1,2,4-Trichlorobenzene	Ave	1.244	1.056		8.49	10.0	-15.1	35.0
Hexachlorobutadiene	Ave	1.111	1.036		9.33	10.0	-6.7	35.0
Naphthalene	Ave	1.328	1.098		8.27	10.0	-17.3	35.0
1,2,3-Trichlorobenzene	Ave	0.9807	0.8329		8.49	10.0	-15.1	35.0
Dibromofluoromethane (Surr)	Lin2		0.3102		10.2	10.8	-5.1	35.0
1,2-Dichloroethane-d4 (Surr)	Lin1		0.2646		9.94	10.8	-7.5	35.0
Toluene-d8 (Surr)	Lin2		4.760		11.4	10.8	5.9	35.0
4-Bromofluorobenzene (Surr)	Lin2		1.025		11.3	10.8	4.7	35.0



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-431136/8

Matrix: Water Lab File ID: MS9\_5472.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 09/26/2018 23:20

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 431136 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	4.80	J	10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	0.389	J	2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	108		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	103		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-431297/6  
 Matrix: Water Lab File ID: MS1\_7522.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 09/27/2018 19:24  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 431297 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.16
75-34-3	1,1-Dichloroethane	ND		1.0	0.22
75-35-4	1,1-Dichloroethene	ND		1.0	0.23
107-06-2	1,2-Dichloroethane	ND		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	ND		6.0	2.0
67-64-1	Acetone	ND		10	1.9
71-43-2	Benzene	ND		1.0	0.16
75-00-3	Chloroethane	ND		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.15
100-41-4	Ethylbenzene	ND		1.0	0.16
75-09-2	Methylene Chloride	ND		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	ND		2.0	0.34
95-47-6	o-Xylene	ND		1.0	0.19
100-42-5	Styrene	ND		1.0	0.17
127-18-4	Tetrachloroethene	ND		1.0	0.20
108-88-3	Toluene	ND		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	ND		1.0	0.15
79-01-6	Trichloroethene	ND		1.0	0.16
75-01-4	Vinyl chloride	ND		1.0	0.10
1330-20-7	Xylenes, Total	ND		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		70-127
460-00-4	4-Bromofluorobenzene (Surr)	100		78-120
1868-53-7	Dibromofluoromethane (Surr)	98		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-431136/4

Matrix: Water Lab File ID: MS9\_5471.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 09/26/2018 22:59

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: RTX-624 ID: 0.53 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 431136 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	3.83		1.0	0.16
75-34-3	1,1-Dichloroethane	3.85		1.0	0.22
75-35-4	1,1-Dichloroethene	3.99		1.0	0.23
107-06-2	1,2-Dichloroethane	3.95		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	17.6		6.0	2.0
67-64-1	Acetone	21.0		10	1.9
71-43-2	Benzene	3.88		1.0	0.16
75-00-3	Chloroethane	4.20		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.15		1.0	0.15
100-41-4	Ethylbenzene	4.48		1.0	0.16
75-09-2	Methylene Chloride	4.45		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.39		2.0	0.34
95-47-6	o-Xylene	4.70		1.0	0.19
100-42-5	Styrene	4.50		1.0	0.17
127-18-4	Tetrachloroethene	4.38		1.0	0.20
108-88-3	Toluene	4.25		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.14		1.0	0.15
79-01-6	Trichloroethene	4.11		1.0	0.16
75-01-4	Vinyl chloride	3.62		1.0	0.10
1330-20-7	Xylenes, Total	9.09		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	90		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	90		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-431297/4  
 Matrix: Water Lab File ID: MS1\_7520.D  
 Analysis Method: 8260B Date Collected: \_\_\_\_\_  
 Sample wt/vol: 20 (mL) Date Analyzed: 09/27/2018 18:44  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 431297 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.18		1.0	0.16
75-34-3	1,1-Dichloroethane	5.21		1.0	0.22
75-35-4	1,1-Dichloroethene	5.29		1.0	0.23
107-06-2	1,2-Dichloroethane	5.31		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	21.5		6.0	2.0
67-64-1	Acetone	22.9		10	1.9
71-43-2	Benzene	5.11		1.0	0.16
75-00-3	Chloroethane	5.42		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.07		1.0	0.15
100-41-4	Ethylbenzene	4.95		1.0	0.16
75-09-2	Methylene Chloride	5.08		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.95		2.0	0.34
95-47-6	o-Xylene	4.96		1.0	0.19
100-42-5	Styrene	4.81		1.0	0.17
127-18-4	Tetrachloroethene	4.96		1.0	0.20
108-88-3	Toluene	5.06		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.20		1.0	0.15
79-01-6	Trichloroethene	5.11		1.0	0.16
75-01-4	Vinyl chloride	5.41		1.0	0.10
1330-20-7	Xylenes, Total	9.91		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		70-127
460-00-4	4-Bromofluorobenzene (Surr)	107		78-120
1868-53-7	Dibromofluoromethane (Surr)	105		77-120
2037-26-5	Toluene-d8 (Surr)	109		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-431297/5

Matrix: Water Lab File ID: MS1\_7521.D

Analysis Method: 8260B Date Collected: \_\_\_\_\_

Sample wt/vol: 20 (mL) Date Analyzed: 09/27/2018 19:04

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 431297 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.31		1.0	0.16
75-34-3	1,1-Dichloroethane	5.28		1.0	0.22
75-35-4	1,1-Dichloroethene	5.34		1.0	0.23
107-06-2	1,2-Dichloroethane	5.29		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	22.5		6.0	2.0
67-64-1	Acetone	22.5		10	1.9
71-43-2	Benzene	5.17		1.0	0.16
75-00-3	Chloroethane	5.51		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	5.23		1.0	0.15
100-41-4	Ethylbenzene	5.03		1.0	0.16
75-09-2	Methylene Chloride	5.25		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.06		2.0	0.34
95-47-6	o-Xylene	5.05		1.0	0.19
100-42-5	Styrene	4.92		1.0	0.17
127-18-4	Tetrachloroethene	5.00		1.0	0.20
108-88-3	Toluene	5.14		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.38		1.0	0.15
79-01-6	Trichloroethene	5.20		1.0	0.16
75-01-4	Vinyl chloride	5.56		1.0	0.10
1330-20-7	Xylenes, Total	10.1		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		70-127
460-00-4	4-Bromofluorobenzene (Surr)	104		78-120
1868-53-7	Dibromofluoromethane (Surr)	102		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-405 MS</u>	Lab Sample ID: <u>280-114332-7 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5491.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 11:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 06:10</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.19		1.0	0.16
75-34-3	1,1-Dichloroethane	4.39		1.0	0.22
75-35-4	1,1-Dichloroethene	4.66		1.0	0.23
107-06-2	1,2-Dichloroethane	4.45		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	18.2		6.0	2.0
67-64-1	Acetone	25.2		10	1.9
71-43-2	Benzene	4.16		1.0	0.16
75-00-3	Chloroethane	5.95		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.52		1.0	0.15
100-41-4	Ethylbenzene	4.42		1.0	0.16
75-09-2	Methylene Chloride	4.84		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.26		2.0	0.34
95-47-6	o-Xylene	4.57		1.0	0.19
100-42-5	Styrene	4.22		1.0	0.17
127-18-4	Tetrachloroethene	4.45		1.0	0.20
108-88-3	Toluene	4.33		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.66		1.0	0.15
79-01-6	Trichloroethene	4.29		1.0	0.16
75-01-4	Vinyl chloride	4.83		1.0	0.10
1330-20-7	Xylenes, Total	8.83		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	95		70-127
460-00-4	4-Bromofluorobenzene (Surr)	103		78-120
1868-53-7	Dibromofluoromethane (Surr)	94		77-120
2037-26-5	Toluene-d8 (Surr)	102		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: _____	Lab Sample ID: <u>280-114425-K-1 MS</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS1_7540.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/17/2018 09:55</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/28/2018 02:10</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>DB-624 (60.25)</u> ID: <u>0.25 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431297</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.22		1.0	0.16
75-34-3	1,1-Dichloroethane	5.74		1.0	0.22
75-35-4	1,1-Dichloroethene	5.05		1.0	0.23
107-06-2	1,2-Dichloroethane	6.19		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	23.9		6.0	2.0
67-64-1	Acetone	29.5		10	1.9
71-43-2	Benzene	5.62		1.0	0.16
75-00-3	Chloroethane	5.48		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	12.4		1.0	0.15
100-41-4	Ethylbenzene	5.26		1.0	0.16
75-09-2	Methylene Chloride	5.60		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	5.24		2.0	0.34
95-47-6	o-Xylene	5.32		1.0	0.19
100-42-5	Styrene	5.25		1.0	0.17
127-18-4	Tetrachloroethene	4.85		1.0	0.20
108-88-3	Toluene	5.37		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.40		1.0	0.15
79-01-6	Trichloroethene	5.25		1.0	0.16
75-01-4	Vinyl chloride	6.91		1.0	0.10
1330-20-7	Xylenes, Total	10.6		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	112		70-127
460-00-4	4-Bromofluorobenzene (Surr)	106		78-120
1868-53-7	Dibromofluoromethane (Surr)	105		77-120
2037-26-5	Toluene-d8 (Surr)	108		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Denver</u>	Job No.: <u>280-114332-1</u>
SDG No.: _____	
Client Sample ID: <u>AFDV-405 MSD</u>	Lab Sample ID: <u>280-114332-7 MSD</u>
Matrix: <u>Water</u>	Lab File ID: <u>MS9_5492.D</u>
Analysis Method: <u>8260B</u>	Date Collected: <u>09/13/2018 11:00</u>
Sample wt/vol: <u>20 (mL)</u>	Date Analyzed: <u>09/27/2018 06:32</u>
Soil Aliquot Vol: _____	Dilution Factor: <u>1</u>
Soil Extract Vol.: _____	GC Column: <u>RTX-624</u> ID: <u>0.53 (mm)</u>
% Moisture: _____	Level: (low/med) <u>Low</u>
Analysis Batch No.: <u>431136</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	4.07		1.0	0.16
75-34-3	1,1-Dichloroethane	4.23		1.0	0.22
75-35-4	1,1-Dichloroethene	4.24		1.0	0.23
107-06-2	1,2-Dichloroethane	4.52		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	18.7		6.0	2.0
67-64-1	Acetone	24.3		10	1.9
71-43-2	Benzene	4.12		1.0	0.16
75-00-3	Chloroethane	5.12		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	4.39		1.0	0.15
100-41-4	Ethylbenzene	4.32		1.0	0.16
75-09-2	Methylene Chloride	4.78		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.23		2.0	0.34
95-47-6	o-Xylene	4.53		1.0	0.19
100-42-5	Styrene	4.22		1.0	0.17
127-18-4	Tetrachloroethene	4.47		1.0	0.20
108-88-3	Toluene	4.21		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	4.52		1.0	0.15
79-01-6	Trichloroethene	4.18		1.0	0.16
75-01-4	Vinyl chloride	4.77		1.0	0.10
1330-20-7	Xylenes, Total	8.76		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		70-127
460-00-4	4-Bromofluorobenzene (Surr)	104		78-120
1868-53-7	Dibromofluoromethane (Surr)	96		77-120
2037-26-5	Toluene-d8 (Surr)	105		80-125



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Client Sample ID: \_\_\_\_\_ Lab Sample ID: 280-114425-K-1 MSD

Matrix: Water Lab File ID: MS1\_7541.D

Analysis Method: 8260B Date Collected: 09/17/2018 09:55

Sample wt/vol: 20 (mL) Date Analyzed: 09/28/2018 02:31

Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1

Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 (60.25) ID: 0.25 (mm)

% Moisture: \_\_\_\_\_ Level: (low/med) Low

Analysis Batch No.: 431297 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-55-6	1,1,1-Trichloroethane	5.20		1.0	0.16
75-34-3	1,1-Dichloroethane	5.36		1.0	0.22
75-35-4	1,1-Dichloroethene	5.15		1.0	0.23
107-06-2	1,2-Dichloroethane	5.66		1.0	0.13
78-93-3	Methyl ethyl ketone (MEK)	24.1		6.0	2.0
67-64-1	Acetone	30.3		10	1.9
71-43-2	Benzene	5.29		1.0	0.16
75-00-3	Chloroethane	5.49		2.0	0.41
156-59-2	cis-1,2-Dichloroethene	11.5		1.0	0.15
100-41-4	Ethylbenzene	4.90		1.0	0.16
75-09-2	Methylene Chloride	5.14		2.0	0.32
179601-23-1	m-Xylene & p-Xylene	4.85		2.0	0.34
95-47-6	o-Xylene	4.79		1.0	0.19
100-42-5	Styrene	4.71		1.0	0.17
127-18-4	Tetrachloroethene	4.72		1.0	0.20
108-88-3	Toluene	5.04		1.0	0.17
156-60-5	trans-1,2-Dichloroethene	5.12		1.0	0.15
79-01-6	Trichloroethene	5.14		1.0	0.16
75-01-4	Vinyl chloride	7.12		1.0	0.10
1330-20-7	Xylenes, Total	9.64		2.0	0.19

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	113		70-127
460-00-4	4-Bromofluorobenzene (Surr)	106		78-120
1868-53-7	Dibromofluoromethane (Surr)	105		77-120
2037-26-5	Toluene-d8 (Surr)	108		80-125



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1Start Date: 08/02/2018 07:34Analysis Batch Number: 424541End Date: 08/02/2018 19:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-424541/1		08/02/2018 07:34	1	MS1_5072.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 08:32	1		DB-624 (60.25) 0.25 (mm)
STD003 280-424541/12 IC		08/02/2018 08:53	1		DB-624 (60.25) 0.25 (mm)
STD01 280-424541/13 IC		08/02/2018 09:13	1		DB-624 (60.25) 0.25 (mm)
STD02 280-424541/14 IC		08/02/2018 09:33	1		DB-624 (60.25) 0.25 (mm)
STD05 280-424541/15 IC		08/02/2018 09:53	1		DB-624 (60.25) 0.25 (mm)
STD10 280-424541/16 IC		08/02/2018 10:14	1		DB-624 (60.25) 0.25 (mm)
STD30 280-424541/17 IC		08/02/2018 10:34	1		DB-624 (60.25) 0.25 (mm)
STD60 280-424541/18 IC		08/02/2018 10:54	1		DB-624 (60.25) 0.25 (mm)
ICV 280-424541/19		08/02/2018 11:35	1		DB-624 (60.25) 0.25 (mm)
STD01 280-424541/20 IC		08/02/2018 11:55	1	MS1_5084.D	DB-624 (60.25) 0.25 (mm)
STD02 280-424541/21 IC		08/02/2018 12:15	1	MS1_5085.D	DB-624 (60.25) 0.25 (mm)
STD05 280-424541/22 IC		08/02/2018 12:36	1	MS1_5086.D	DB-624 (60.25) 0.25 (mm)
ICIS 280-424541/23		08/02/2018 12:56	1	MS1_5087.D	DB-624 (60.25) 0.25 (mm)
STD30 280-424541/24 IC		08/02/2018 13:16	1	MS1_5088.D	DB-624 (60.25) 0.25 (mm)
STD60 280-424541/25 IC		08/02/2018 13:37	1	MS1_5089.D	DB-624 (60.25) 0.25 (mm)
ICV 280-424541/26		08/02/2018 14:17	1	MS1_5091.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 15:17	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 15:37	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 15:57	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 16:18	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 16:38	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 16:58	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 17:19	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 17:39	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 18:00	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		08/02/2018 18:20	1		DB-624 (60.25) 0.25 (mm)
CCVC 280-424541/43		08/02/2018 18:40	1		DB-624 (60.25) 0.25 (mm)
CCVC 280-424541/44		08/02/2018 19:01	1		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1 Start Date: 09/24/2018 10:24Analysis Batch Number: 430712 End Date: 09/24/2018 18:23

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-430712/1		09/24/2018 10:24	1	MS1_7319.D	DB-624 (60.25) 0.25 (mm)
STD 280-430712/12 IC		09/24/2018 11:47	1	MS1_7322.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/24/2018 11:47	1		DB-624 (60.25) 0.25 (mm)
STD 280-430712/13 IC		09/24/2018 12:07	1	MS1_7323.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/24/2018 12:07	1		DB-624 (60.25) 0.25 (mm)
STD 280-430712/14 IC		09/24/2018 12:27	1	MS1_7324.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/24/2018 12:27	1		DB-624 (60.25) 0.25 (mm)
STD 280-430712/15 IC		09/24/2018 12:48	1	MS1_7325.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/24/2018 12:48	1		DB-624 (60.25) 0.25 (mm)
ICIS 280-430712/16		09/24/2018 13:08	1	MS1_7326.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/24/2018 13:08	1		DB-624 (60.25) 0.25 (mm)
STD 280-430712/17 IC		09/24/2018 13:28	1	MS1_7327.D	DB-624 (60.25) 0.25 (mm)
STD 280-430712/18 IC		09/24/2018 13:48	1	MS1_7328.D	DB-624 (60.25) 0.25 (mm)
ICV 280-430712/19		09/24/2018 14:29	1	MS1_7330.D	DB-624 (60.25) 0.25 (mm)
ICV 280-430712/25		09/24/2018 18:23	1	MS1_7338.D	DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS1Start Date: 09/27/2018 17:13Analysis Batch Number: 431297End Date: 09/28/2018 04:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-431297/1		09/27/2018 17:13	1	MS1_7517.D	DB-624 (60.25) 0.25 (mm)
CCV 280-431297/2		09/27/2018 17:45	1	MS1_7518.D	DB-624 (60.25) 0.25 (mm)
CCV 280-431297/3		09/27/2018 18:23	1	MS1_7519.D	DB-624 (60.25) 0.25 (mm)
LCS 280-431297/4		09/27/2018 18:44	1	MS1_7520.D	DB-624 (60.25) 0.25 (mm)
LCSD 280-431297/5		09/27/2018 19:04	1	MS1_7521.D	DB-624 (60.25) 0.25 (mm)
MB 280-431297/6		09/27/2018 19:24	1	MS1_7522.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 20:22	1		DB-624 (60.25) 0.25 (mm)
280-114332-1		09/27/2018 20:45	1	MS1_7524.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 21:05	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 21:25	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 21:46	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 22:06	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 22:27	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 22:47	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 23:07	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 23:28	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/27/2018 23:48	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 00:08	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 00:29	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 00:49	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 01:09	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 01:30	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 01:50	1		DB-624 (60.25) 0.25 (mm)
280-114425-K-1 MS		09/28/2018 02:10	1	MS1_7540.D	DB-624 (60.25) 0.25 (mm)
280-114425-K-1 MSD		09/28/2018 02:31	1	MS1_7541.D	DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 02:51	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 03:11	10		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 03:31	1		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 04:12	10		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 04:32	10		DB-624 (60.25) 0.25 (mm)
ZZZZZ		09/28/2018 04:52	10		DB-624 (60.25) 0.25 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 08/08/2018 09:00Analysis Batch Number: 425296End Date: 08/08/2018 21:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-425296/1		08/08/2018 09:00	1	MS9_3380.D	RTX-624 0.53 (mm)
STD 280-425296/12 IC		08/08/2018 09:47	1		RTX-624 0.53 (mm)
STD 280-425296/13 IC		08/08/2018 10:08	1		RTX-624 0.53 (mm)
STD 280-425296/14 IC		08/08/2018 10:30	1		RTX-624 0.53 (mm)
STD 280-425296/15 IC		08/08/2018 10:51	1		RTX-624 0.53 (mm)
STD 280-425296/16 IC		08/08/2018 11:13	1		RTX-624 0.53 (mm)
STD 280-425296/17 IC		08/08/2018 11:34	1		RTX-624 0.53 (mm)
STD 280-425296/18 IC		08/08/2018 11:56	1		RTX-624 0.53 (mm)
ICV 280-425296/19		08/08/2018 12:39	1		RTX-624 0.53 (mm)
STD 280-425296/20 IC		08/08/2018 13:00	1	MS9_3391.D	RTX-624 0.53 (mm)
STD 280-425296/21 IC		08/08/2018 13:22	1	MS9_3392.D	RTX-624 0.53 (mm)
STD 280-425296/22 IC		08/08/2018 13:43	1	MS9_3393.D	RTX-624 0.53 (mm)
ICIS 280-425296/23		08/08/2018 14:05	1	MS9_3394.D	RTX-624 0.53 (mm)
STD 280-425296/24 IC		08/08/2018 14:27	1	MS9_3395.D	RTX-624 0.53 (mm)
STD 280-425296/25 IC		08/08/2018 14:48	1	MS9_3396.D	RTX-624 0.53 (mm)
ICV 280-425296/26		08/08/2018 15:31	1	MS9_3398.D	RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 17:46	1		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 18:07	1		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 18:29	1		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 18:51	1		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 19:12	1		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 19:34	1		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 19:55	100		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 20:17	1000		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 20:38	1		RTX-624 0.53 (mm)
ZZZZZ		08/08/2018 21:00	4		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9 Start Date: 09/13/2018 13:12Analysis Batch Number: 429583 End Date: 09/13/2018 16:27

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-429583/1		09/13/2018 13:12	1	MS9_4819.D	RTX-624 0.53 (mm)
IC 280-429583/12		09/13/2018 14:16	1	MS9_4822.D	RTX-624 0.53 (mm)
IC 280-429583/13		09/13/2018 14:38	1	MS9_4823.D	RTX-624 0.53 (mm)
IC 280-429583/14		09/13/2018 15:00	1	MS9_4824.D	RTX-624 0.53 (mm)
IC 280-429583/15		09/13/2018 15:22	1	MS9_4825.D	RTX-624 0.53 (mm)
ICIS 280-429583/16		09/13/2018 15:44	1	MS9_4826.D	RTX-624 0.53 (mm)
IC 280-429583/17		09/13/2018 16:05	1	MS9_4827.D	RTX-624 0.53 (mm)
IC 280-429583/18		09/13/2018 16:27	1	MS9_4828.D	RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 09/14/2018 09:32Analysis Batch Number: 429695End Date: 09/14/2018 21:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-429695/1		09/14/2018 09:32	1	MS9_4868.D	RTX-624 0.53 (mm)
CCV 280-429695/2		09/14/2018 09:56	1		RTX-624 0.53 (mm)
CCV 280-429695/3		09/14/2018 10:18	1		RTX-624 0.53 (mm)
ICV 280-429695/12		09/14/2018 10:39	1	MS9_4871.D	RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 11:01	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 11:22	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 11:44	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 12:19	4		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 12:40	40		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 13:02	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 13:23	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 13:45	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 14:07	10		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 14:29	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 14:51	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 15:12	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 15:34	20		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 15:56	2		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 16:18	2		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 16:39	20		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 17:01	2		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 17:23	20		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 17:45	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 18:06	10		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 18:28	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 18:50	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 19:12	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 19:34	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 20:17	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 20:39	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 21:01	1		RTX-624 0.53 (mm)
ZZZZZ		09/14/2018 21:22	1		RTX-624 0.53 (mm)
CCVC 280-429695/39		09/14/2018 21:44	1		RTX-624 0.53 (mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VMS\_MS9Start Date: 09/26/2018 20:37Analysis Batch Number: 431136End Date: 09/27/2018 07:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 280-431136/1		09/26/2018 20:37	1	MS9_5466.D	RTX-624 0.53 (mm)
CCV 280-431136/3		09/26/2018 21:57	1	MS9_5469.D	RTX-624 0.53 (mm)
CCV 280-431136/2		09/26/2018 22:19	1	MS9_5470.D	RTX-624 0.53 (mm)
LCS 280-431136/4		09/26/2018 22:59	1	MS9_5471.D	RTX-624 0.53 (mm)
MB 280-431136/8		09/26/2018 23:20	1	MS9_5472.D	RTX-624 0.53 (mm)
ZZZZZ		09/26/2018 23:44	1		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 00:06	1		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 00:27	1		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 00:49	1		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 01:11	1		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 01:32	1		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 01:54	1		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 02:15	4		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 02:37	500		RTX-624 0.53 (mm)
ZZZZZ		09/27/2018 02:58	5000		RTX-624 0.53 (mm)
280-114332-2		09/27/2018 03:19	500	MS9_5483.D	RTX-624 0.53 (mm)
280-114332-2 DL		09/27/2018 03:41	5000	MS9_5484.D	RTX-624 0.53 (mm)
280-114332-3		09/27/2018 04:02	500	MS9_5485.D	RTX-624 0.53 (mm)
280-114332-3 DL		09/27/2018 04:23	5000	MS9_5486.D	RTX-624 0.53 (mm)
280-114332-4		09/27/2018 04:45	1	MS9_5487.D	RTX-624 0.53 (mm)
280-114332-5		09/27/2018 05:06	1	MS9_5488.D	RTX-624 0.53 (mm)
280-114332-6		09/27/2018 05:28	1	MS9_5489.D	RTX-624 0.53 (mm)
280-114332-7		09/27/2018 05:49	1	MS9_5490.D	RTX-624 0.53 (mm)
280-114332-7 MS		09/27/2018 06:10	1	MS9_5491.D	RTX-624 0.53 (mm)
280-114332-7 MSD		09/27/2018 06:32	1	MS9_5492.D	RTX-624 0.53 (mm)
280-114332-8		09/27/2018 06:54	1	MS9_5493.D	RTX-624 0.53 (mm)
280-114332-9		09/27/2018 07:15	1	MS9_5494.D	RTX-624 0.53 (mm)



Sequence Name: C:\msdchem\1\sequence\092618PM.S

Comment:

Operator: NWANGUMAF

Data Path: C:\MSDCHEM\1\DATA\092618PM\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

MS9  
8

# 20:37-07:15  
431136

Line	Sample Name/Misc Info
1) Sample	100 MS9_5461 BFB BFB
2) Sample	100 MS9_5462 BFB BFB
3) Sample	100 MS9_5463 BFB BFB
4) Sample	100 MS9_5464 BFB BFB
5) Sample	100 MS9_5465 BFB BFB
6) Sample	100 MS9_5466 BFB BFB
7) Sample	1 MS9_5467 8260 BLK
8) Sample	2 MS9_5468 8260 CCV
9) Sample	3 MS9_5469 8260 CCV
10) Sample	4 MS9_5470 8260 CCV
11) Sample	5 MS9_5471 8260 LCS
12) Sample	6 MS9_5472 8260 MB
13) Sample	7 MS9_5473 8260 280-114600-e-1 pH=7
14) Sample	8 MS9_5474 8260 280-114600-i-2 pH=7
15) Sample	9 MS9_5475 8260 280-114600-h-3 pH=7 HS
16) Sample	10 MS9_5476 8260 280-114600-g-4 pH=7
17) Sample	11 MS9_5477 8260 280-114600-h-5 pH=7
18) Sample	12 MS9_5478 8260 280-114600-g-6 pH=7
19) Sample	13 MS9_5479 8260 280-114600-h-7 pH=7 HS
20) Sample	14 MS9_5480 8260 280-114552-a-5 pH=7 4x
21) Sample	15 MS9_5481 8260 280-114332-a-1 pH<2 500x
22) Sample	16 MS9_5482 8260 280-114332-a-1 pH<2 5000x
23) Sample	17 MS9_5483 8260 280-114332-c-2 pH<2 500x
24) Sample	18 MS9_5484 8260 280-114332-c-2 pH<2 5000x
25) Sample	19 MS9_5485 8260 280-114332-c-3 pH<2 500x
26) Sample	20 MS9_5486 8260 280-114332-c-3 pH<2 5000x
27) Sample	21 MS9_5487 8260 280-114332-e-4 pH<2
28) Sample	22 MS9_5488 8260 280-114332-d-5 pH<2
29) Sample	23 MS9_5489 8260 280-114332-c-6 pH<2
30) Sample	24 MS9_5490 8260 280-114332-f-7 pH<2
31) Sample	25 MS9_5491 8260 280-114332-e-7 ms pH<2
32) Sample	26 MS9_5492 8260 280-114332-e-7 msd pH<2
33) Sample	27 MS9_5493 8260 280-114332-e-8 pH<2
34) Sample	28 MS9_5494 8260 280-114332-a-9 pH<2

FCN  
09/27/18



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 092618pm

Worklist Number: 74428

Instrument Name: VMS\_MS9

Chrom Method: AQ\_VMSMS9\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180926-74428.b

QC Batching: Disabled

Limit Group Batching: Enabled

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 431136
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 LCS	# 6 LCS
# 7 LCSD	# 7 LCSD
# 8 MB	# 8 MB
# 9 280-108595-A-1	# 9 280-108595-A-1
#10 280-108595-A-2	#10 280-108595-A-2
#11 280-108595-A-3	#11 280-108595-A-3
#12 280-114600-E-1	#12 280-114600-E-1
#13 280-114600-I-2	#13 280-114600-I-2
#14 280-114600-H-3	#14 280-114600-H-3
#15 280-114600-G-4	#15 280-114600-G-4
#16 280-114600-H-5	#16 280-114600-H-5
#17 280-114600-G-6	#17 280-114600-G-6
#18 280-114600-H-7	#18 280-114600-H-7
#19 280-114552-A-5	#19 280-114552-A-5
#20 280-114332-A-1	#20 280-114332-A-1
#21 280-114332-A-1	#21 280-114332-A-1
#22 280-114332-C-2	#22 280-114332-C-2
#23 280-114332-C-2	#23 280-114332-C-2
#24 280-114332-C-3	#24 280-114332-C-3
#25 280-114332-C-3	#25 280-114332-C-3
#26 280-114332-E-4	#26 280-114332-E-4
#27 280-114332-D-5	#27 280-114332-D-5
#28 280-114332-C-6	#28 280-114332-C-6
#29 280-114332-F-7	#29 280-114332-F-7
#30 280-114332-E-7 MS	#30 280-114332-E-7 MS
#31 280-114332-E-7 MSD	#31 280-114332-E-7 MSD
#32 280-114332-E-8	#32 280-114332-E-8
#33 280-114332-A-9	#33 280-114332-A-9
#34 Samp 34	#34 Samp 34

FCV  
09/27/18



TestAmerica Laboratories  
Worklist Report

Worklist Name: 092618pm

Instrument Name: VMS\_MS9

Purge Volume: 20.00

Analysis Type: VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180926-74428.b

Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9

Run Reagent: MV-568718-D\_00014

Run Reagent: MV-ARCH SS A\_00103

Worklist Number: 74428



























Chrom Method: AQ\_VMSMS9\_8260

Units: mL





























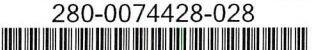







Amount Added: 1.000, Units: uL

Amount Added: 0.860, Units: uL







FN  
09/27/18

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074428-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0074428-002 	# 2 CCV 	MV-MegaMainA_00001	CCV	voaWater	20.00	mL	1.000
280-0074428-003 	# 3 CCV 	MV-Supp A_00032 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0074428-004 	# 4 LCS 	MV-MegaMain B_00001	LCS	voaWater	20.00	mL	1.000
280-0074428-005 	# 5 LCSD 	MV-MegaMain B_00001	LCSD	voaWater	20.00	mL	1.000
280-0074428-006 	# 6 LCS 	MV-Supp B_00021	LCS	voaWater	20.00	mL	1.000
280-0074428-007 	# 7 LCSD 	MV-Supp B_00021	LCSD	voaWater	20.00	mL	1.000
280-0074428-008 	# 8 MB 		MB	voaWater	20.00	mL	1.000
280-0074428-009 	# 9 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0074428-010 	# 10 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0074428-011 	# 11 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0074428-012 	# 12 280-114600-E-1 		Client	voaWater	20.00	mL	1.000
280-0074428-013 	# 13 280-114600-I-2 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074428-014 	#14 280-114600-H-3 		Client	voaWater	20.00	mL	1.000
280-0074428-015 	#15 280-114600-G-4 		Client	voaWater	20.00	mL	1.000
280-0074428-016 	#16 280-114600-H-5 		Client	voaWater	20.00	mL	1.000
280-0074428-017 	#17 280-114600-G-6 		Client	voaWater	20.00	mL	1.000
280-0074428-018 	#18 280-114600-H-7 		Client	voaWater	20.00	mL	1.000
280-0074428-019 	#19 280-114552-A-5 		Client	voaWater	20.00	mL	4.000
280-0074428-020 	#20 280-114332-A-1 		Client	voaWater	20.00	mL	500.0
280-0074428-021 	#21 280-114332-A-1 		Client	voaWater	20.00	mL	5000.0
280-0074428-022 	#22 280-114332-C-2 		Client	voaWater	20.00	mL	500.0
280-0074428-023 	#23 280-114332-C-2 		Client	voaWater	20.00	mL	5000.0
280-0074428-024 	#24 280-114332-C-3 		Client	voaWater	20.00	mL	500.0
280-0074428-025 	#25 280-114332-C-3 		Client	voaWater	20.00	mL	5000.0
280-0074428-026 	#26 280-114332-E-4 		Client	voaWater	20.00	mL	1.000
280-0074428-027 	#27 280-114332-D-5 		Client	voaWater	20.00	mL	1.000
280-0074428-028 	#28 280-114332-C-6 		Client	voaWater	20.00	mL	1.000
280-0074428-029 	#29 280-114332-F-7 		Client	voaWater	20.00	mL	1.000
280-0074428-030 	#30 280-114332-E-7 MS 	MV-MegaMain B_00001	MS	voaWater	20.00	mL	1.000
280-0074428-031 	#31 280-114332-E-7 MSD 	MV-MegaMain B_00001	MSD	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074428-032 	#32 280-114332-E-8 		Client	vowater	20.00	mL	1.000
280-0074428-033 	#33 280-114332-A-9 		Client	vowater	20.00	mL	1.000
280-0074428-034 	#34 Samp 34 		Client	vowater	20.00	mL	1.000



9/26/2018  
11:25PM

Sample Request Form: 50392

FCV  
09/26/18

den\_msvoa\_totalbacklog 9/26/2018 11:25:42 PM Assigned to:Nwanguma, Frankline C

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-114600-1	TRIP BLANK	20	8260B	8260B 7	09/27 23:59	10/09/18	BAS	CO	MS-Strge & GC-Strge	Unconfirmed
280-114600-2	MW03	20	8260B	8260B 7	09/27 23:59	10/09/18	BAS	CO	70 & GC-Strge & Mtls-Strge & MS-Strge & WC Dpt	Unconfirmed
280-114600-3	MW04	20	8260B	8260B 7	09/27 23:59	10/09/18	BAS	CO	GC-Strge & MS-Strge & 70 & Mtls-Strge & WC Dpt	Unconfirmed
280-114600-4	MW09	20	8260B	8260B 7	09/27 23:59	10/09/18	BAS	CO	MS-Strge & 70 & GC-Strge & Mtls-Strge & WC Dpt	Unconfirmed
280-114600-5	MW05	20	8260B	8260B 7	09/27 23:59	10/09/18	BAS	CO	MS-Strge & WC Dpt & GC-Strge & 70 & Mtls-Strge	Unconfirmed
280-114600-6	MW10	20	8260B	8260B 7	09/27 23:59	10/09/18	BAS	CO	70 & MS-Strge & GC-Strge & Mtls-Strge & WC Dpt	Unconfirmed
280-114600-7	MW12	20	8260B	8260B 7	09/27 23:59	10/09/18	BAS	CO	GC-Strge & 70 & WC Dpt & Mtls-Strge & MS-Strge	Unconfirmed



9/26/2018  
11:26PM

Sample Request Form: 50393

Page 1 of 2

den\_msvoa\_totalbacklog 9/26/2018 11:26:48 PM Assigned to:Nwanguma, Frankline C

*Len*  
*09/26/18*

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-114332-1	AFDV-411	<i>vol/mL</i> <i>0.04/0.004</i>	8260B	<i>pl4</i> <i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	MS-Strge	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-2	AFDV-412	<i>0.04/0.004</i> <i>0.04/0.004</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	MS-Strge	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-3	AFDV-413	<i>0.04/0.004</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	MS-Strge	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-4	AFDV-414	<i>20</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	MS-Strge & GC-Strge & WC Dpt & 45 & GC-Use	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-5	AFDV-415	<i>20</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	WC Dpt & MS-Strge & 45 & GC-Strge & GC-Use	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-6	AFDV-418	<i>20</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	MS-Strge	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-7	AFDV-405	<i>20</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	GC-Use & GC-Strge & 45 & WC Dpt & MS-Strge	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-7MS	AFDV-405	<i>20</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	GC-Strge & 45 & MS-Strge & GC-Use	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-7MSD	AFDV-405	<i>20</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	MS-Strge & GC-Strge & 45	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										
280-114332-8	AFDV-406	<i>20</i>	8260B	<i>&lt; 2</i>	09/27 23:59	10/02/18	JNI	IA	GC-Strge & GC-Use & 45 & MS-Strge & WC Dpt	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										

Page 1 of 2  
09/26/2018  
11:26:48 PM



9/26/2018  
11:26PM

Sample Request Form: 50393

Page 2 of 2

den\_msvoa\_totalbacklog 9/26/2018 11:26:48 PM Assigned to:Nwanguma, Frankline C

Sample	Client Sample ID	Container	Method	Analytical Method	Hold Time	Due	PM	State Code	Storage	Hazard Level
280-114332-9	AFDV-417	20	8260B	8260B < 2	09/27 23:59	10/02/18	JNI	IA	MS-Strge	Unconfirmed
<input type="checkbox"/> M DIL2/Use DF										



TestAmerica Laboratories  
Worklist QC Batch Report

Worklist Name: 092718pm

Worklist Number: 74488

Instrument Name: VMS\_MS1

Chrom Method: AQ\_VMS1\_8260

Data Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180927-74488.b

QC Batching: Disabled

Limit Group Batching: Enabled

BK  
9/27/18  
2nd

QC Batch: 1	MSV - 8260B Water and Solid Raw Batch: 431297
# 1 BFB	# 1 BFB
# 2 CCV	# 2 CCV
# 3 CCV	# 3 CCV
# 4 LCS	# 4 LCS
# 5 LCSD	# 5 LCSD
# 6 MB	# 6 MB
# 7 280-108595-A-1	# 7 280-108595-A-1
# 8 280-108595-A-2	# 8 280-108595-A-2
# 9 280-108595-A-3	# 9 280-108595-A-3
#10 280-114545-A-14	#10 280-114545-A-14 PH<2
#11 280-114332-B-1	#11 280-114332-B-1 PH<2
#12 280-114389-G-1	#12 280-114389-G-1 PH<2
#13 280-114389-H-3	#13 280-114389-H-3 PH<2
#14 280-114389-B-5	#14 280-114389-B-5 PH<2
#15 280-114545-B-1	#15 280-114545-B-1 PH<2
#16 280-114545-B-2	#16 280-114545-B-2 PH<2
#17 280-114545-G-6	#17 280-114545-G-6 PH<2
#18 280-114545-C-12	#18 280-114545-C-12 PH<2
#19 280-114545-B-11	#19 280-114545-B-11 PH<2
#20 280-114545-A-10	#20 280-114545-A-10 PH<2
#21 280-114545-A-9	#21 280-114545-A-9 PH<2
#22 280-114545-G-8	#22 280-114545-G-8 PH<2
#23 280-114545-D-7	#23 280-114545-D-7 PH<2
#24 280-114545-E-5	#24 280-114545-E-5 PH<2
#25 280-114545-G-4	#25 280-114545-G-4 PH<2
#26 280-114425-L-1	#26 280-114425-L-1 PH<2
#27 280-114425-K-1 MS	#27 280-114425-K-1 MS PH<2
#28 280-114425-K-1 MSD	#28 280-114425-K-1 MSD PH<2
#29 280-114425-A-2	#29 280-114425-A-2 PH<2
#30 280-114545-G-6	#30 280-114545-G-6 PH<2
#31 280-114545-C-21	#31 280-114545-C-21 PH<2
#32 280-114545-C-12	#32 280-114545-C-12 PH<2
#33 280-114545-B-11	#33 280-114545-B-11 PH<2
#34 280-114545-A-10	#34 280-114545-A-10 PH<2
#35 280-114545-G-8	#35 280-114545-G-8 PH<2

H5V  
H5V

10x

10x - Run x100

10x

10x

10x



Report Date: 28-Sep-2018 01:20:51



















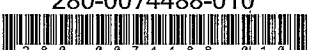







Chrom Revision: 2.3 19-Jul-2018 15:14:48

Page: 1

TestAmerica Laboratories  
Worklist Report

Worklist Name: 092718pm  
Instrument Name: VMS\_MS1  
Purge Volume: 20.00  
Analysis Type: VOA  
Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180927-74488.b  
Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS1  
Run Reagent: MV-568718-D\_00014  
Run Reagent: MV-ARCH SS A\_00102


















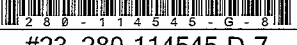
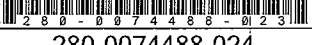
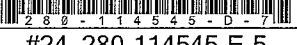
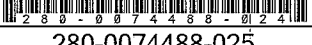
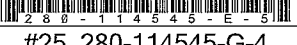
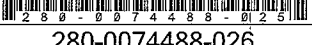
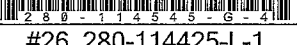
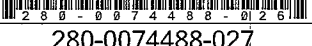
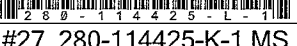
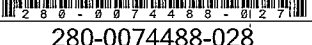
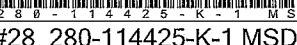
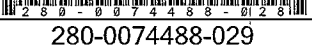
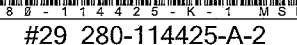
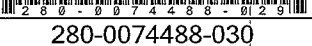
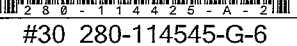
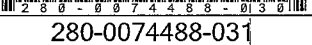
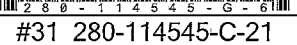
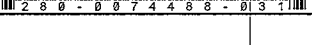
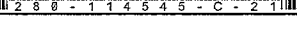
Worklist Number: 74488  
Chrom Method: AQ\_VMS1\_8260  
Units: mL  
Amount Added: 1.000, Units: uL  
Amount Added: 1.100, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074488-001 	# 1 BFB 	MV-BFB_00026	BFB	voaWater	1.000	uL	1.000
280-0074488-002 	# 2 CCV 	MV-MegaMainA_00001	CCV	voaWater	20.00	mL	1.000
280-0074488-003 	# 3 CCV 	MV-Supp A_00032 MV-568718-D_00014	CCV	voaWater	20.00	mL	1.000
280-0074488-004 	# 4 LCS 	MV-MegaMain B_00001	LCS	voaWater	20.00	mL	1.000
280-0074488-005 	# 5 LCSD 	MV-MegaMain B_00001	LCSD	voaWater	20.00	mL	1.000
280-0074488-006 	# 6 MB 		MB	voaWater	20.00	mL	1.000
280-0074488-007 	# 7 280-108595-A-1 		Client	voaWater	20.00	mL	1.000
280-0074488-008 	# 8 280-108595-A-2 		Client	voaWater	20.00	mL	1.000
280-0074488-009 	# 9 280-108595-A-3 		Client	voaWater	20.00	mL	1.000
280-0074488-010 	#10 280-114545-A-14 		Client	voaWater	20.00	mL	1.000
280-0074488-011 	#11 280-114332-B-1 		Client	voaWater	20.00	mL	1.000
280-0074488-012 	#12 280-114389-G-1 		Client	voaWater	20.00	mL	1.000
280-0074488-013 	#13 280-114389-H-3 		Client	voaWater	20.00	mL	1.000

09/30/2018

Page 166 of 308



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074488-014 	#14 280-114389-B-5 		Client	voaWater	20.00	mL	1.000
280-0074488-015 	#15 280-114545-B-1 		Client	voaWater	20.00	mL	1.000
280-0074488-016 	#16 280-114545-B-2 		Client	voaWater	20.00	mL	1.000
280-0074488-017 	#17 280-114545-G-6 		Client	voaWater	20.00	mL	1.000
280-0074488-018 	#18 280-114545-C-12 		Client	voaWater	20.00	mL	1.000
280-0074488-019 	#19 280-114545-B-11 		Client	voaWater	20.00	mL	1.000
280-0074488-020 	#20 280-114545-A-10 		Client	voaWater	20.00	mL	1.000
280-0074488-021 	#21 280-114545-A-9 		Client	voaWater	20.00	mL	1.000
280-0074488-022 	#22 280-114545-G-8 		Client	voaWater	20.00	mL	1.000
280-0074488-023 	#23 280-114545-D-7 		Client	voaWater	20.00	mL	1.000
280-0074488-024 	#24 280-114545-E-5 		Client	voaWater	20.00	mL	1.000
280-0074488-025 	#25 280-114545-G-4 		Client	voaWater	20.00	mL	1.000
280-0074488-026 	#26 280-114425-L-1 		Client	voaWater	20.00	mL	1.000
280-0074488-027 	#27 280-114425-K-1 MS 	MV-MegaMain B_00001	MS	voaWater	20.00	mL	1.000
280-0074488-028 	#28 280-114425-K-1 MSD 	MV-MegaMain B_00001	MSD	voaWater	20.00	mL	1.000
280-0074488-029 	#29 280-114425-A-2 		Client	voaWater	20.00	mL	1.000
280-0074488-030 	#30 280-114545-G-6 		Client	voaWater	20.00	mL	10.00
280-0074488-031 	#31 280-114545-C-21 		Client	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074488-032 	#32 280-114545-C-12 		Client	voaWater	20.00	mL	10.00
280-0074488-033 	#33 280-114545-B-11 		Client	voaWater	20.00	mL	10.00
280-0074488-034 	#34 280-114545-A-10 		Client	voaWater	20.00	mL	10.00
280-0074488-035 	#35 280-114545-G-8 		Client	voaWater	20.00	mL	10.00



Sequence Name: C:\msdchem\1\sequence\080218am.s

Comment:

Operator: wickhamt

Data Path: C:\MSDCHEM\1\DATA\080218am\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MS1

DV-MS-0010 (2600/2624) (Circle)

Purge Volume: (20mL/5mL/5g)

Tune Time: 07:34-19:01 (Circle)

Ums Batch: 424541

Method Sections To Run

(X) Full Method

( ) Reprocessing Only

Sequence Barcode Options

(X) On Mismatch, Inject Anyway

( ) On Mismatch, Don't Inject

( ) Barcode Disabled

Line	Sample Name/Misc Info
1) Sample 51	MS1_5070 8260 primer
2) Sample 100	MS1_5071 BFB bfb
3) Sample 100	MS1_5072 BFB bfb 07:34
4) Sample 10	MS1_5073 8260 blank
5) Sample 11	MS1_5074 8260 blank
6) Sample 12	MS1_5075 8260 std003
7) Sample 13	MS1_5076 8260 std01
8) Sample 14	MS1_5077 8260 std02
9) Sample 15	MS1_5078 8260 std05
10) Sample 16	MS1_5079 8260 std10
11) Sample 17	MS1_5080 8260 std30
12) Sample 18	MS1_5081 8260 std60
13) Sample 19	MS1_5082 8260 blank
14) Sample 20	MS1_5083 8260 icv
15) Sample 21	MS1_5084 8260 std01
16) Sample 22	MS1_5085 8260 std02
17) Sample 23	MS1_5086 8260 std05
18) Sample 24	MS1_5087 8260 icis
19) Sample 25	MS1_5088 8260 std30
20) Sample 26	MS1_5089 8260 std60
21) Sample 27	MS1_5090 8260 blank
22) Sample 28	MS1_5091 8260 icv
23) Sample 29	MS1_5092 8260 lcs m
24) Sample 30	MS1_5093 8260 lcsd m
25) Sample 31	MS1_5094 8260 lcs s
26) Sample 32	MS1_5095 8260 lcsd s
27) Sample 33	MS1_5096 8260 280-112244-C-1 E, DNR, RR dil @ 2mL
28) Sample 34	MS1_5097 8260 280-112244-D-2
29) Sample 35	MS1_5098 8260 280-112244-B-7
30) Sample 36	MS1_5099 8260 280-112244-D-8
31) Sample 37	MS1_5100 8260 280-112225-e-2 pH2
32) Sample 38	MS1_5101 8260 280-112225-d-3 pH2
33) Sample 39	MS1_5102 8260 ccvc m
34) Sample 40	MS1_5103 8260 ccvc s 19:01

8-3-18  
Taw

MAIN ICAL  
calib ID: 33278  
WL: 72600  
ICV: 19  
good for Q4/Q5

1st level: Taw 8-3-18  
2nd level: *[Signature]* 8/3/18

SUPP ICAL  
calib ID: 33279  
WL: 72600  
ICIS: 23  
ICV: 26

good for Q4/Q5 EXCEPT: ethylene oxide -2.18%  
tetrahydrothiophene 33%  
cis-1,4-dichloro-2-b.ene -26.8%



TestAmerica Laboratories  
Worklist Report

Worklist Name: 080218am

Instrument Name: VMS\_MS1

Purge Volume: 20.00

Analysis Type: VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180802-72600.b

Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS1

Run Reagent: MV-568718-D\_00014

Run Reagent: MV-ARCH SS A\_00101

























Worklist Number: 72600

Chrom Method: AQ\_VMS1\_8260
















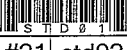
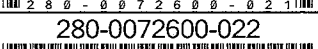
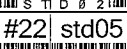




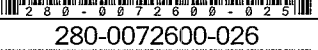
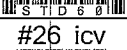






Units: mL

Amount Added: 1.000, Units: uL























Amount Added: 0.980, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072600-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0072600-002 	# 2 CCV 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00075	CCV		voaWater	20.00	mL	1.000
280-0072600-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0072600-004 	# 4 LCS 	MV-2cleve+AVA_00036 MV-Gas/Ket B_00043	LCS		voaWater	20.00	mL	1.000
280-0072600-005 	# 5 LCSD 	MV-2cleve+AVA_00036 MV-Gas/Ket B_00043	LCSD		voaWater	20.00	mL	1.000
280-0072600-006 	# 6 LCS 	MV-Supp B_00021 mv-pentachloB_00008	LCS		voaWater	20.00	mL	1.000
280-0072600-007 	# 7 LCSD 	MV-Supp B_00021 mv-pentachloB_00008	LCSD		voaWater	20.00	mL	1.000
280-0072600-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0072600-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0072600-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0072600-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0072600-012 	#12 std003 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00037 MV-Gas/Ket A_00076	IC	1	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072600-013 	#13 std01 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00037 MV-Gas/Ket A_00076	IC	2	voaWater	20.00	mL	1.000
280-0072600-014 	#14 std02 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00037 MV-Gas/Ket A_00076	IC	3	voaWater	20.00	mL	1.000
280-0072600-015 	#15 std05 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00037 MV-Gas/Ket A_00076	IC	4	voaWater	20.00	mL	1.000
280-0072600-016 	#16 std10 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00037 MV-Gas/Ket A_00076	IC	5	voaWater	20.00	mL	1.000
280-0072600-017 	#17 std30 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00037 MV-Gas/Ket A_00076	IC	6	voaWater	20.00	mL	1.000
280-0072600-018 	#18 std60 	MV-568718-D_00014 MV-Main A_00037 MV-2cleve+AVA_00037 MV-Gas/Ket A_00076	IC	7	voaWater	20.00	mL	1.000
280-0072600-019 	#19 icv 	MV-568718-D_00014 MV-Main B_00022 MV-SS 2-Cleve_00046 MV-Gas/Ket B_00044	ICV		voaWater	20.00	mL	1.000
280-0072600-020 	#20 std01 	MV-568718-D_00014 MV-ARCH SS A_00101 MV-Supp A_00031	IC	2	voaWater	20.00	mL	1.000
280-0072600-021 	#21 std02 	MV-568718-D_00014 MV-ARCH SS A_00101 MV-Supp A_00031	IC	3	voaWater	20.00	mL	1.000
280-0072600-022 	#22 std05 	MV-568718-D_00014 MV-ARCH SS A_00101 MV-Supp A_00031	IC	4	voaWater	20.00	mL	1.000
280-0072600-023 	#23 icis 	MV-568718-D_00014 MV-ARCH SS A_00101 MV-Supp A_00031	ICIS	5	voaWater	20.00	mL	1.000
280-0072600-024 	#24 std30 	MV-568718-D_00014 MV-ARCH SS A_00101 MV-Supp A_00031	IC	6	voaWater	20.00	mL	1.000
280-0072600-025 	#25 std60 	MV-568718-D_00014 MV-ARCH SS A_00101 MV-Supp A_00031	IC	7	voaWater	20.00	mL	1.000
280-0072600-026 	#26 icv 	MV-568718-D_00014 MV-ARCH SS A_00101 MV-Supp B_00021	ICV		voaWater	20.00	mL	1.000
280-0072600-033 	#33 lcs 	MV-Gas/Ket B_00044 MV-SS 2-Cleve_00046 MV-Main B_00022	LCS		voaWater	20.00	mL	1.000
280-0072600-034 	#34 lcsd 	MV-Gas/Ket B_00044 MV-SS 2-Cleve_00046 MV-Main B_00022	LCSD		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072600-035 	#35 lcs 	MV-Supp B_00021	LCS		voaWater	20.00	mL	1.000
280-0072600-036 	#36 lcsd 	MV-Supp B_00021	LCSD		voaWater	20.00	mL	1.000
280-0072600-037 	#37 280-112244-C-1 		Client		voaWater	20.00	mL	1.000
280-0072600-038 	#38 280-112244-D-2 		Client		voaWater	20.00	mL	1.000
280-0072600-039 	#39 280-112244-B-7 		Client		voaWater	20.00	mL	1.000
280-0072600-040 	#40 280-112244-D-8 		Client		voaWater	20.00	mL	1.000
280-0072600-041 	#41 280-112225-E-2 		Client		voaWater	20.00	mL	1.000
280-0072600-042 	#42 280-112225-D-3 		Client		voaWater	20.00	mL	1.000
280-0072600-043 	#43 ccvc 	MV-2cleve+AVA_00036 MV-Main A_00037 MV-Gas/Ket A_00075	CCVC		voaWater	20.00	mL	1.000
280-0072600-044 	#44 ccvc 	MV-Supp A_00031	CCVC		voaWater	20.00	mL	1.000
280-0072600-045 	#45 Samp 45 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\080818i.S

Comment:

Operator: DOBRANSKYM

Data Path: C:\MSDCHEM\1\DATA\080818i\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Method Sections To Run On A Barcode Mismatch  
(X) Full Method (X) Inject Anyway  
( ) Reprocessing Only ( ) Don't Inject

Test America Denver

Instrument: MS9

DV-MS-0010 (8260/624) (Circle)

Purge Volume: (20mL/5mL/5g) (Circle)

Tune Time: 900 - 2100

Lims Batch: 425296

WL: 7294

Line	Sample Name/Misc Info
1) Sample	100 MS9_3380 BFB BFB
2) Sample	9 MS9_3381 8260 BLK
3) Sample	10 MS9_3382 8260 STD
4) Sample	11 MS9_3383 8260 STD
5) Sample	12 MS9_3384 8260 STD
6) Sample	13 MS9_3385 8260 STD
7) Sample	14 MS9_3386 8260 STD
8) Sample	15 MS9_3387 8260 STD
9) Sample	16 MS9_3388 8260 STD
10) Sample	17 MS9_3389 8260 BLK
11) Sample	18 MS9_3390 8260 ICV
12) Sample	19 MS9_3391 8260 STD
13) Sample	20 MS9_3392 8260 STD
14) Sample	21 MS9_3393 8260 STD
15) Sample	22 MS9_3394 8260 ICIS
16) Sample	23 MS9_3395 8260 STD
17) Sample	24 MS9_3396 8260 STD
18) Sample	25 MS9_3397 8260 BLK
19) Sample	26 MS9_3398 8260 ICV
20) Sample	27 MS9_3399 8260 LCS M
21) Sample	28 MS9_3400 8260 LCSD M
22) Sample	29 MS9_3401 8260 LCS S
23) Sample	30 MS9_3402 8260 LCSD S
24) Sample	31 MS9_3403 8260 MB
25) Sample	32 MS9_3404 8260 LCS RR
26) Sample	33 MS9_3405 8260 LCSD RR
27) Sample	34 MS9_3406 8260 LCS S
28) Sample	35 MS9_3407 8260 LCSD S
29) Sample	36 MS9_3408 8260 280-112533-b-29 PH<2
30) Sample	37 MS9_3409 8260 280-112533-c-30 0.2ML PH<2
31) Sample	38 MS9_3410 8260 280-112533-c-30 .02mL PH<2
32) Sample	39 MS9_3411 8260 280-112533-c-31 PH<2
33) Sample	40 MS9_3412 8260 280-112533-c-31 5ML PH<2
34) Sample	41 MS9_3413 8260 PRIMER
35) Sample	42 MS9_3414 8260 PRIMER

Main/Gas:

Calibration ID: 33323 -

ICV Line 19

DoD (±20%) except: 2-Pentanone + 36.7%

Supp:

Calibration ID: 33331 -

ICIS Line 23 ICV Line 26

Good for DoD

1st Level Review: MD 8/9/18













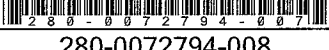

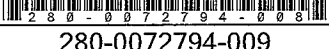

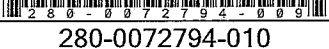
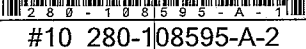
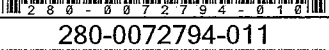
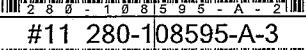
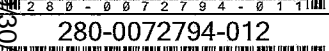
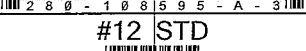
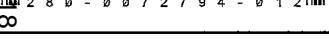
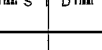
2nd Level Review: SM 8/9/18



















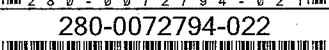





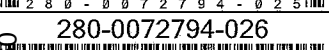





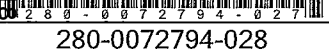
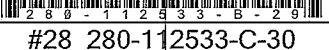


TestAmerica Laboratories  
Worklist Report

Worklist Name: 080818i  
 Instrument Name: VMS\_MS9  
 Purge Volume: 20.00  
 Analysis Type: VOA  
 Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180808-72794.b  
 Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9  
 Run Reagent: MV-568718-D\_00014  
 Run Reagent: MV-ARCH SS A\_00101









Worklist Number: 72794  
 Chrom Method: AQ\_VMSMS9\_8260  
 Units: mL  
 Amount Added: 1.000, Units: uL  
 Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072794-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0072794-002 	# 2 CCV 	MV-Main A_00037 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037	CCV		voaWater	20.00	mL	1.000
280-0072794-003 	# 3 CCV 	MV-568718-D_00014 MV-Supp A_00032	CCV		voaWater	20.00	mL	1.000
280-0072794-004 	# 4 LCS 	MV-Main B_00022 MV-SS 2-Cleve_00046 MV-Gas/Ket B_00044	LCS		voaWater	20.00	mL	1.000
280-0072794-005 	# 5 LCSD 	MV-Main B_00022 MV-SS 2-Cleve_00046 MV-Gas/Ket B_00044	LCSD		voaWater	20.00	mL	1.000
280-0072794-006 	# 6 LCS 	MV-Supp B_00021	LCS		voaWater	20.00	mL	1.000
280-0072794-007 	# 7 LCSD 	MV-Supp B_00021	LCSD		voaWater	20.00	mL	1.000
280-0072794-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0072794-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0072794-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0072794-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0072794-012 	#12 STD 	MV-568718-D_00014 MV-Main A_00037 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037	IC	1	voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072794-013 	#13 STD 	MV-568718-D_00014 MV-Main A_00037 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037	IC	2	voaWater	20.00	mL	1.000
280-0072794-014 	#14 STD 	MV-568718-D_00014 MV-Main A_00037 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037	IC	3	voaWater	20.00	mL	1.000
280-0072794-015 	#15 STD 	MV-568718-D_00014 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037 MV-Main A_00037	IC	4	voaWater	20.00	mL	1.000
280-0072794-016 	#16 STD 	MV-568718-D_00014 MV-Main A_00037 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037	IC	5	voaWater	20.00	mL	1.000
280-0072794-017 	#17 STD 	MV-568718-D_00014 MV-Main A_00037 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037	IC	6	voaWater	20.00	mL	1.000
280-0072794-018 	#18 STD 	MV-568718-D_00014 MV-Main A_00037 MV-Gas/Ket A_00076 MV-2cleve+AVA_00037	IC	7	voaWater	20.00	mL	1.000
280-0072794-019 	#19 ICV 	MV-568718-D_00014 MV-Main B_00022 MV-Gas/Ket B_00044 MV-SS 2-Cleve_00046	ICV		voaWater	20.00	mL	1.000
280-0072794-020 	#20 STD 	MV-ARCH SS A_00101 MV-568718-D_00014 MV-Supp A_00032	IC	2	voaWater	20.00	mL	1.000
280-0072794-021 	#21 STD 	MV-ARCH SS A_00101 MV-568718-D_00014 MV-Supp A_00032	IC	3	voaWater	20.00	mL	1.000
280-0072794-022 	#22 STD 	MV-ARCH SS A_00101 MV-568718-D_00014 MV-Supp A_00032	IC	4	voaWater	20.00	mL	1.000
280-0072794-023 	#23 ICIS 	MV-ARCH SS A_00101 MV-568718-D_00014 MV-Supp A_00032	ICIS	5	voaWater	20.00	mL	1.000
280-0072794-024 	#24 STD 	MV-ARCH SS A_00101 MV-568718-D_00014 MV-Supp A_00032	IC	6	voaWater	20.00	mL	1.000
280-0072794-025 	#25 STD 	MV-ARCH SS A_00101 MV-568718-D_00014 MV-Supp A_00032	IC	7	voaWater	20.00	mL	1.000
280-0072794-026 	#26 ICV 	MV-ARCH SS A_00101 MV-568718-D_00014 MV-Supp B_00021	ICV		voaWater	20.00	mL	1.000
280-0072794-027 	#27 280-112533-B-29 		Client		voaWater	20.00	mL	1.000
280-0072794-028 	#28 280-112533-C-30 		Client		voaWater	20.00	mL	100.0



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0072794-029 	#29 280-112533-C-30 		Client		voaWater	20.00	mL	1000.0
280-0072794-030 	#30 280-112533-C-31 		Client		voaWater	20.00	mL	1.000
280-0072794-031 	#31 280-112533-C-31 		Client		voaWater	20.00	mL	4.000
280-0072794-032 	#32 Samp 32 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\091318i.S

Comment:

Operator: meierg

Data Path: C:\MSDCHEM\1\DATA\091318i\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MS9

QVMS-0010 02500/624 (Circle)

Purge Volume: 200 L/5mL/5g

Time: 1312-1627 (Circle)

Page: 429583

Method Sections To Run On A Barcode Mismatch

(X) Full Method (X) Inject Anyway

( ) Reprocessing Only ( ) Don't Inject

Line	Sample Name/Misc Info
1) Sample 100	MS9_4819 BFB bfb
2) Sample 1	MS9_4820 8260 blk
3) Sample 2	MS9_4821 8260 blk
4) Sample 3	MS9_4822 8260 ic
5) Sample 4	MS9_4823 8260 ic
6) Sample 5	MS9_4824 8260 ic
7) Sample 6	MS9_4825 8260 ic
8) Sample 7	MS9_4826 8260 icis
9) Sample 8	MS9_4827 8260 ic
10) Sample 9	MS9_4828 8260 ic
11) Sample 10	MS9_4829 8260 blk
12) Sample 11	MS9_4830 8260 icv
13) Sample 12	MS9_4831 8260 280-114178-C-1
14) Sample 13	MS9_4832 8260 280-114175-B-33
15) Sample 14	MS9_4833 8260 280-114175-B-34
16) Sample 15	MS9_4834 8260 280-114175-B-35
17) Sample 16	MS9_4835 8260 280-114175-A-37
18) Sample 17	MS9_4836 8260 280-114175-C-38
19) Sample 18	MS9_4837 8260 280-114175-B-43
20) Sample 19	MS9_4838 8260 280-114175-A-44
21) Sample 20	MS9_4839 8260 280-114175-D-45
22) Sample 21	MS9_4840 8260 280-114175-B-41
23) Sample 22	MS9_4841 8260 280-114175-D-46
24) Sample 23	MS9_4842 8260 280-114175-A-47
25) Sample 24	MS9_4843 8260 280-114175-D-49
26) Sample 25	MS9_4844 8260 280-114175-D-48
27) Sample 26	MS9_4845 8260 280-114175-B-50
28) Sample 27	MS9_4846 8260 280-114175-D-51
29) Sample 28	MS9_4847 8260 280-114175-A-52
30) Sample 29	MS9_4848 8260 280-114175-B-53
31) Sample 30	MS9_4849 8260 280-114175-B-54
32) Sample 31	MS9_4850 8260 280-114175-A-55
33) Sample 32	MS9_4851 8260 280-114175-B-56
34) Sample 33	MS9_4852 8260 280-114175-C-57
35) Sample 34	MS9_4853 8260 280-114186-A-1
36) Sample 35	MS9_4854 8260 280-114186-A-2
37) Sample 36	MS9_4855 8260 280-114186-A-3
38) Sample 37	MS9_4856 8260 280-114186-A-4
39) Sample 38	MS9_4857 8260 280-114186-A-5
40) Sample 39	MS9_4858 8260 280-114186-B-6
41) Sample 40	MS9_4859 8260 280-114186-A-7
42) Sample 41	MS9_4860 8260 280-114190-K-1
43) Sample 42	MS9_4861 8260 280-114190-I-2

CM

9/14/18

ICV RR IN BATCH 429695/12

SCREENS



Line	Type	Vial	DataFile	Method	Sample Name
44)	Sample	43	MS9_4862 8260		280-114190-K-3
45)	Sample	44	MS9_4863 8260		280-114190-J-4
46)	Sample	45	MS9_4864 8260		280-114190-J-5
47)	Sample	46	MS9_4865 8260		280-114190-J-6
48)	Sample	47	MS9_4866 8260		280-114190-I-7
49)	Sample	48	MS9_4867 8260		280-114190-I-9



TestAmerica Laboratories  
Worklist Report

Worklist Name: 091318i

Instrument Name: VMS\_MS9

Purge Volume: 20.00

Analysis Type: VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS9\20180913-73988.b

Upload Directory: \\CORPTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS9

Run Reagent: MV-568718-D\_00014

Run Reagent: MV-ARCH SS A\_00103















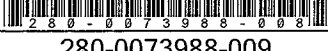

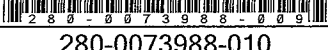
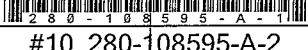
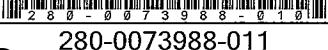
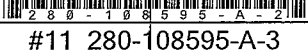
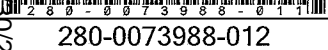
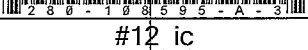
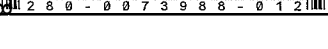
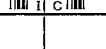
Worklist Number: 73988

Chrom Method: AQ\_VMSMS9\_8260















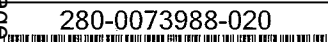

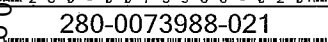

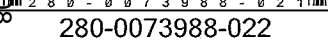

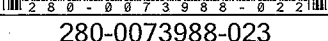

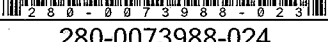

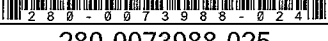

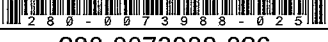

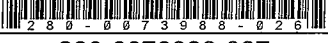

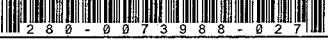





Units: mL

Amount Added: 1.000, Units: uL





































Amount Added: 0.800, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0073988-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0073988-002 	# 2 CCV 	MV-Main A_00037 MV-2cleve+AVA_00037 MV-568718-D_00014 MV-Gas/Ket A_00077	CCV		voaWater	20.00	mL	1.000
280-0073988-003 	# 3 CCV 	MV-Supp A_00032	CCV		voaWater	20.00	mL	1.000
280-0073988-004 	# 4 LCS 	MV-Main B_00022 MV-SS 2-Cleve_00046 MV-Gas/Ket B_00045	LCS		voaWater	20.00	mL	1.000
280-0073988-005 	# 5 LCSD 	MV-Main B_00022 MV-SS 2-Cleve_00046 MV-Gas/Ket B_00045	LCSD		voaWater	20.00	mL	1.000
280-0073988-006 	# 6 MB 		MB		voaWater	20.00	mL	1.000
280-0073988-007 	# 7 LCS 	MV-Supp B_00021	LCS		voaWater	20.00	mL	1.000
280-0073988-008 	# 8 LCSD 	MV-Supp B_00021	LCSD		voaWater	20.00	mL	1.000
280-0073988-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0073988-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0073988-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0073988-012 	#12 ic 	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00103	IC	1	voaWater	20.00	mL	1.000






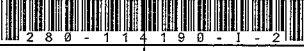

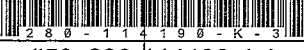



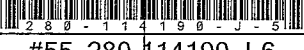
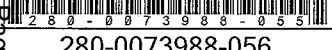
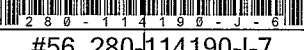
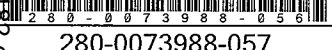
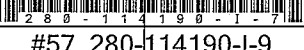
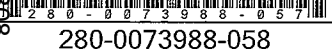

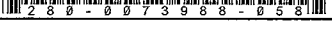
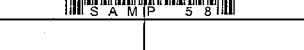


Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0073988-013 	#13 ic 	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00103	IC	2	voaWater	20.00	mL	1.000
280-0073988-014 	#14 ic 	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00103	IC	3	voaWater	20.00	mL	1.000
280-0073988-015 	#15 ic 	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00103	IC	4	voaWater	20.00	mL	1.000
280-0073988-016 	#16 icis 	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00103	ICIS	5	voaWater	20.00	mL	1.000
280-0073988-017 	#17 ic 	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00103	IC	6	voaWater	20.00	mL	1.000
280-0073988-018 	#18 ic 	MV-568718-D_00014 MV-MegaMainA_00001 MV-ARCH SS A_00103	IC	7	voaWater	20.00	mL	1.000
280-0073988-019 	#19 icv 	MV-568718-D_00014 MV-MegaMain B_00001 MV-ARCH SS A_00103	ICV		voaWater	20.00	mL	1.000
280-0073988-020 	#20 screens 		Client		voaWater	20.00	mL	1.000
280-0073988-021 	#21 280-114178-C-1 		Client		voaWater	20.00	mL	1.000
280-0073988-022 	#22 280-114175-B-33 		Client		voaWater	20.00	mL	1.000
280-0073988-023 	#23 280-114175-B-34 		Client		voaWater	20.00	mL	1.000
280-0073988-024 	#24 280-114175-B-35 		Client		voaWater	20.00	mL	1.000
280-0073988-025 	#25 280-114175-A-37 		Client		voaWater	20.00	mL	1.000
280-0073988-026 	#26 280-114175-C-38 		Client		voaWater	20.00	mL	1.000
280-0073988-027 	#27 280-114175-B-43 		Client		voaWater	20.00	mL	1.000
280-0073988-028 	#28 280-114175-A-44 		Client		voaWater	20.00	mL	1.000
280-0073988-029 	#29 280-114175-D-45 		Client		voaWater	20.00	mL	1.000
280-0073988-030 	#30 280-114175-B-41 		Client		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0073988-031 	#31 280-114175-D-46 		Client		voaWater	20.00	mL	1.000
280-0073988-032 	#32 280-114175-A-47 		Client		voaWater	20.00	mL	1.000
280-0073988-033 	#33 280-114175-D-49 		Client		voaWater	20.00	mL	1.000
280-0073988-034 	#34 280-114175-D-48 		Client		voaWater	20.00	mL	1.000
280-0073988-035 	#35 280-114175-B-50 		Client		voaWater	20.00	mL	1.000
280-0073988-036 	#36 280-114175-D-51 		Client		voaWater	20.00	mL	1.000
280-0073988-037 	#37 280-114175-A-52 		Client		voaWater	20.00	mL	1.000
280-0073988-038 	#38 280-114175-B-53 		Client		voaWater	20.00	mL	1.000
280-0073988-039 	#39 280-114175-B-54 		Client		voaWater	20.00	mL	1.000
280-0073988-040 	#40 280-114175-A-55 		Client		voaWater	20.00	mL	1.000
280-0073988-041 	#41 280-114175-B-56 		Client		voaWater	20.00	mL	1.000
280-0073988-042 	#42 280-114175-C-57 		Client		voaWater	20.00	mL	1.000
280-0073988-043 	#43 280-114186-A-1 		Client		voaWater	20.00	mL	1.000
280-0073988-044 	#44 280-114186-A-2 		Client		voaWater	20.00	mL	1.000
280-0073988-045 	#45 280-114186-A-3 		Client		voaWater	20.00	mL	1.000
280-0073988-046 	#46 280-114186-A-4 		Client		voaWater	20.00	mL	1.000
280-0073988-047 	#47 280-114186-A-5 		Client		voaWater	20.00	mL	1.000
280-0073988-048 	#48 280-114186-B-6 		Client		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0073988-049 	#49 280-114186-A-7 		Client		voaWater	20.00	mL	1.000
280-0073988-050 	#50 280-114190-K-1 		Client		voaWater	20.00	mL	1.000
280-0073988-051 	#51 280-114190-I-2 		Client		voaWater	20.00	mL	1.000
280-0073988-052 	#52 280-114190-K-3 		Client		voaWater	20.00	mL	1.000
280-0073988-053 	#53 280-114190-J-4 		Client		voaWater	20.00	mL	1.000
280-0073988-054 	#54 280-114190-J-5 		Client		voaWater	20.00	mL	1.000
280-0073988-055 	#55 280-114190-J-6 		Client		voaWater	20.00	mL	1.000
280-0073988-056 	#56 280-114190-I-7 		Client		voaWater	20.00	mL	1.000
280-0073988-057 	#57 280-114190-I-9 		Client		voaWater	20.00	mL	1.000
280-0073988-058 	#58 Samp 58 		Client		voaWater	20.00	mL	1.000



Sequence Name: C:\msdchem\1\sequence\092418i.s

Comment:

Operator: wickhamt

Data Path: C:\MSDCHEM\1\DATA\092418am\

Instrument Control Pre-Seq Cmd:

Data Analysis Pre-Seq Cmd:

Instrument Control Post-Seq Cmd:

Data Analysis Post-Seq Cmd:

Test America Denver

Instrument: MSI

DV-MS-0010 (2600324) (Circle)

Purge Volume: (20mL/5mL/5g)

(Circle)

Method Sections To Run

Sequence Barcode Options

(X) Full Method

(X) On Mismatch, Inject Anyway

( ) Reprocessing Only

( ) On Mismatch, Don't Inject

( ) Barcode Disabled

Time Time: 10:24-18:23

Line Batch: 430712

Line

Sample Name/Misc Info

1) Sample	49	MS1_7316	8260	primer
2) Sample	50	MS1_7317	8260	primer
3) Sample	51	MS1_7318	8260	primer
4) Sample	100	MS1_7319	BFB	bfb 10:24
5) Sample	10	MS1_7320	8260	blank
6) Sample	11	MS1_7321	8260	blank
7) Sample	12	MS1_7322	8260	std
8) Sample	13	MS1_7323	8260	std
9) Sample	14	MS1_7324	8260	std
10) Sample	15	MS1_7325	8260	std
11) Sample	16	MS1_7326	8260	std
12) Sample	17	MS1_7327	8260	std
13) Sample	18	MS1_7328	8260	std
14) Sample	19	MS1_7329	8260	blank
15) Sample	20	MS1_7330	8260	icv
16) Sample	21	MS1_7331	8260	blank
17) Sample	22	MS1_7332	8260	280-113526-a-1 mdlv
18) Sample	23	MS1_7333	8260	280-113526-a-2 mdlv
19) Sample	24	MS1_7334	8260	280-113526-a-3 mdlv
20) Sample	25	MS1_7335	8260	280-113526-a-4 mdlv
21) Sample	26	MS1_7336	8260	280-113526-a-5 mdlv
22) Sample	27	MS1_7337	8260	ICV
23) Sample	28	MS1_7338	8260	ICV 18:23
24) Sample	29	MS1_7339	8260	280-114575-B-1 SCYRUS
25) Sample	30	MS1_7340	8260	280-114575-B-2
26) Sample	31	MS1_7341	8260	280-114575-C-3
27) Sample	32	MS1_7342	8260	280-114575-B-4
28) Sample	33	MS1_7343	8260	280-114575-B-5
29) Sample	34	MS1_7344	8260	280-114575-C-6
30) Sample	35	MS1_7345	8260	280-114575-B-7
31) Sample	36	MS1_7346	8260	280-114575-C-8
32) Sample	37	MS1_7347	8260	280-114576-A-1
33) Sample	38	MS1_7348	8260	280-114576-B-2
34) Sample	39	MS1_7349	8260	280-114576-A-3
35) Sample	40	MS1_7350	8260	280-114576-A-4
36) Sample	41	MS1_7351	8260	280-114576-A-5
37) Sample	42	MS1_7352	8260	280-114576-C-6
38) Sample	43	MS1_7353	8260	280-114576-C-8
39) Sample	44	MS1_7354	8260	280-114576-B-9
40) Sample	45	MS1_7355	8260	280-114576-A-10
41) Sample	46	MS1_7356	8260	280-114576-C-11
42) Sample	47	MS1_7357	8260	280-114576-C-12
43) Sample	48	MS1_7358	8260	280-114576-A-13

9-25-18  
TAW

MAIN/SURRICAL

Calib ID: 33807

WL: 74319

ICIS: 16

ICV: 19/25

CI/45 except: hexane (-27.2%)

cyclohexane (-24.8%)

n-heptane (-27.1%)

methylcyclohexane (-27.5%)

1st level: TAW 9-25-18

2nd level: AET 9/26/18



Line	Type	Vial	DataFile	Method	Sample Name
44)	Sample	49	MS1_7359 8260	280-114610-K-2	screens
45)	Sample	50	MS1_7360 8260	280-114610-K-3	
46)	Sample	51	MS1_7361 8260	280-114610-K-4	
47)	Sample	1	MS1_7362 8260	280-114628-C-1	
48)	Sample	2	MS1_7363 8260	280-114631-B-1	
49)	Sample	3	MS1_7364 8260	280-114631-D-2	

9-25-18  
Tan



TestAmerica Laboratories  
Worklist Report

Worklist Name: 092418am

Instrument Name: VMS\_MS1

Purge Volume: 20.00

Analysis Type: VOA

Batch Directory: \\ChromNA\Denver\ChromData\VMS\_MS1\20180924-74319.b

Upload Directory: \\CorpTALSAPP16\280-DN-RawData\Organics\MS\VMS\_MS1

Run Reagent: MV-568718-D\_00014

Run Reagent: MV-ARCH SS A\_00102



























Worklist Number: 74319

Chrom Method: AQ\_VMS1\_8260

















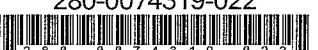



















Units: mL

Amount Added: 1.000, Units: uL


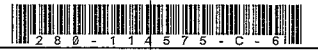






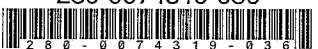



























Amount Added: 0.980, Units: uL

Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074319-001 	# 1 BFB 	MV-BFB_00026	BFB		voaWater	1.000	uL	1.000
280-0074319-002 	# 2 CCV 	MV-MegaMainA_00001	CCV		voaWater	20.00	mL	1.000
280-0074319-003 	# 3 CCV 	MV-Supp A_00031 MV-568718-D_00014	CCV		voaWater	20.00	mL	1.000
280-0074319-004 	# 4 LCS 	MV-MegaMain B_00001	LCS		voaWater	20.00	mL	1.000
280-0074319-005 	# 5 LCSD 	MV-MegaMain B_00001	LCSD		voaWater	20.00	mL	1.000
280-0074319-006 	# 6 LCS 	MV-Supp B_00021	LCS		voaWater	20.00	mL	1.000
280-0074319-007 	# 7 LCSD 	MV-Supp B_00021	LCSD		voaWater	20.00	mL	1.000
280-0074319-008 	# 8 MB 		MB		voaWater	20.00	mL	1.000
280-0074319-009 	# 9 280-108595-A-1 		Client		voaWater	20.00	mL	1.000
280-0074319-010 	#10 280-108595-A-2 		Client		voaWater	20.00	mL	1.000
280-0074319-011 	#11 280-108595-A-3 		Client		voaWater	20.00	mL	1.000
280-0074319-012 	#12 std 	MV-568718-D_00014 MV-ARCH SS A_00102 MV-MegaMainA_00001	IC	1	voaWater	20.00	mL	1.000
280-0074319-013 	#13 std 	MV-568718-D_00014 MV-ARCH SS A_00102 MV-MegaMainA_00001	IC	2	voaWater	20.00	mL	1.000











Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074319-014 	#14 std 	MV-568718-D_00014 MV-ARCH SS A_00102 MV-MegaMainA_00001	IC	3	voaWater	20.00	mL	1.000
280-0074319-015 	#15 std 	MV-568718-D_00014 MV-ARCH SS A_00102 MV-MegaMainA_00001	IC	4	voaWater	20.00	mL	1.000
280-0074319-016 	#16 icis 	MV-568718-D_00014 MV-ARCH SS A_00102 MV-MegaMainA_00001	ICIS	5	voaWater	20.00	mL	1.000
280-0074319-017 	#17 std 	MV-568718-D_00014 MV-ARCH SS A_00102 MV-MegaMainA_00001	IC	6	voaWater	20.00	mL	1.000
280-0074319-018 	#18 std 	MV-568718-D_00014 MV-ARCH SS A_00102 MV-MegaMainA_00001	IC	7	voaWater	20.00	mL	1.000
280-0074319-019 	#19 icv 	MV-ARCH SS A_00102 MV-568718-D_00014	ICV		voaWater	20.00	mL	1.000
280-0074319-020 	#20 280-113526-A-1 MDLV 	MV-568718-D_00014 MV-MegaMainA_00001	MDLV		voaWater	20.00	mL	1.000
280-0074319-021 	#21 280-113526-A-2 MDLV 	MV-568718-D_00014 MV-MegaMainA_00001	MDLV		voaWater	20.00	mL	1.000
280-0074319-022 	#22 280-113526-A-3 MDLV 	MV-568718-D_00014 MV-MegaMainA_00001	MDLV		voaWater	20.00	mL	1.000
280-0074319-023 	#23 280-113526-A-4 MDLV 	MV-568718-D_00014 MV-MegaMainA_00001	MDLV		voaWater	20.00	mL	1.000
280-0074319-024 	#24 280-113526-A-5 MDLV 	MV-568718-D_00014 MV-MegaMainA_00001	MDLV		voaWater	20.00	mL	1.000
280-0074319-025 	#25 ICV 	MV-MegaMain B_00001	ICV		voaWater	20.00	mL	1.000
280-0074319-026 	#26 screens 		Client		voaWater	20.00	mL	1.000
280-0074319-027 	#27 280-114575-B-1 		Client		voaWater	20.00	mL	1.000
280-0074319-028 	#28 280-114575-B-2 		Client		voaWater	20.00	mL	1.000
280-0074319-029 	#29 280-114575-C-3 		Client		voaWater	20.00	mL	1.000
280-0074319-030 	#30 280-114575-B-4 		Client		voaWater	20.00	mL	1.000
280-0074319-031 	#31 280-114575-B-5 		Client		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074319-032 	#32 280-114575-C-6 		Client		voaWater	20.00	mL	1.000
280-0074319-033 	#33 280-114575-B-7 		Client		voaWater	20.00	mL	1.000
280-0074319-034 	#34 280-114575-C-8 		Client		voaWater	20.00	mL	1.000
280-0074319-035 	#35 280-114576-A-1 		Client		voaWater	20.00	mL	1.000
280-0074319-036 	#36 280-114576-B-2 		Client		voaWater	20.00	mL	1.000
280-0074319-037 	#37 280-114576-A-3 		Client		voaWater	20.00	mL	1.000
280-0074319-038 	#38 280-114576-A-4 		Client		voaWater	20.00	mL	1.000
280-0074319-039 	#39 280-114576-A-5 		Client		voaWater	20.00	mL	1.000
280-0074319-040 	#40 280-114576-C-6 		Client		voaWater	20.00	mL	1.000
280-0074319-041 	#41 280-114576-C-8 		Client		voaWater	20.00	mL	1.000
280-0074319-042 	#42 280-114576-B-9 		Client		voaWater	20.00	mL	1.000
280-0074319-043 	#43 280-114576-A-10 		Client		voaWater	20.00	mL	1.000
280-0074319-044 	#44 280-114576-C-11 		Client		voaWater	20.00	mL	1.000
280-0074319-045 	#45 280-114576-C-12 		Client		voaWater	20.00	mL	1.000
280-0074319-046 	#46 280-114576-A-13 		Client		voaWater	20.00	mL	1.000
280-0074319-047 	#47 280-114610-K-2 		Client		voaWater	20.00	mL	1.000
280-0074319-048 	#48 280-114610-K-3 		Client		voaWater	20.00	mL	1.000
280-0074319-049 	#49 280-114610-K-4 		Client		voaWater	20.00	mL	1.000



Worklist ID	Lims ID	Sample Reagents	Smp Type	Cal Lvl	Fract	Initial Vol/Wt	Vol/Wt Units	Dil Fact
280-0074319-050 	#50 280-114628-C-1 		Client		voaWater	20.00	mL	1.000
280-0074319-051 	#51 280-114631-B-1 		Client		voaWater	20.00	mL	1.000
280-0074319-052 	#52 280-114631-D-2 		Client		voaWater	20.00	mL	1.000
280-0074319-053 	#53 Samp 53 		Client		voaWater	20.00	mL	1.000



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 424541 Batch Start Date: 08/02/18 07:34 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00101	MV-BFB 00026	MV-Supp A 00031
BFB 280-424541/1		8260B		1 uL	1 uL			1 uL	
STD01 280-424541/20 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD02 280-424541/21 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD05 280-424541/22 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-424541/23		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD30 280-424541/24 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD60 280-424541/25 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-424541/26		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00021					
BFB 280-424541/1		8260B							
STD01 280-424541/20 IC		8260B							
STD02 280-424541/21 IC		8260B							
STD05 280-424541/22 IC		8260B							
ICIS 280-424541/23		8260B							
STD30 280-424541/24 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 424541 Batch Start Date: 08/02/18 07:34 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00021					
STD60 280-424541/25 IC		8260B							
ICV 280-424541/26		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 425296 Batch Start Date: 08/08/18 09:00 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00101	MV-BFB 00026	MV-Supp A 00032
BFB 280-425296/1		8260B		1 uL	1 uL			1 uL	
STD 280-425296/20 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		0.5 uL
STD 280-425296/21 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		1 uL
STD 280-425296/22 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		2.5 uL
ICIS 280-425296/23		8260B		20 mL	20 mL	1 uL	0.8 uL		5 uL
STD 280-425296/24 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		15 uL
STD 280-425296/25 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		30 uL
ICV 280-425296/26		8260B		20 mL	20 mL	1 uL	0.8 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00021					
BFB 280-425296/1		8260B							
STD 280-425296/20 IC		8260B							
STD 280-425296/21 IC		8260B							
STD 280-425296/22 IC		8260B							
ICIS 280-425296/23		8260B							
STD 280-425296/24 IC		8260B							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 425296 Batch Start Date: 08/08/18 09:00 Batch Analyst: Dobransky, Michael EBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-Supp B 00021					
STD 280-425296/25 IC		8260B							
ICV 280-425296/26		8260B		5 uL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 2 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 429583 Batch Start Date: 09/13/18 13:12 Batch Analyst: Meier, Greg PBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00103	MV-BFB 00026	MV-MegaMainA 00001
BFB 280-429583/1		8260B		1 uL	1 uL			1 uL	
IC 280-429583/12		8260B		20 mL	20 mL	1 uL	0.024 uL		0.2 uL
IC 280-429583/13		8260B		20 mL	20 mL	1 uL	0.08 uL		0.4 uL
IC 280-429583/14		8260B		20 mL	20 mL	1 uL	0.16 uL		0.8 uL
IC 280-429583/15		8260B		20 mL	20 mL	1 uL	0.4 uL		2 uL
ICIS 280-429583/16		8260B		20 mL	20 mL	1 uL	0.8 uL		4 uL
IC 280-429583/17		8260B		20 mL	20 mL	1 uL	2.4 uL		10 uL
IC 280-429583/18		8260B		20 mL	20 mL	1 uL	4.8 uL		24 uL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 429695 Batch Start Date: 09/14/18 09:32 Batch Analyst: Meier, Greg PBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00103	MV-BFB 00026	MV-MegaMain B 00001
BFB 280-429695/1		8260B		1 uL	1 uL			1 uL	
ICV 280-429695/12		8260B		20 mL	20 mL	1 uL	0.86 uL		4 uL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430712 Batch Start Date: 09/24/18 10:24 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00102	MV-BFB 00026	MV-MegaMain B 00001
BFB 280-430712/1		8260B		1 uL	1 uL			1 uL	
STD 280-430712/12 IC		8260B		20 mL	20 mL	1 uL	0.04 uL		
STD 280-430712/13 IC		8260B		20 mL	20 mL	1 uL	0.08 uL		
STD 280-430712/14 IC		8260B		20 mL	20 mL	1 uL	0.16 uL		
STD 280-430712/15 IC		8260B		20 mL	20 mL	1 uL	0.4 uL		
ICIS 280-430712/16		8260B		20 mL	20 mL	1 uL	0.8 uL		
STD 280-430712/17 IC		8260B		20 mL	20 mL	1 uL	2.4 uL		
STD 280-430712/18 IC		8260B		20 mL	20 mL	1 uL	4.8 uL		
ICV 280-430712/19		8260B		20 mL	20 mL	1 uL	0.8 uL		
ICV 280-430712/25		8260B		20 mL	20 mL	1 uL	0.98 uL		4 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00001					
BFB 280-430712/1		8260B							
STD 280-430712/12 IC		8260B		0.2 uL					
STD 280-430712/13 IC		8260B		0.4 uL					
STD 280-430712/14 IC		8260B		1 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430712 Batch Start Date: 09/24/18 10:24 Batch Analyst: Wickham, Tom ABatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00001					
STD 280-430712/15 IC		8260B		2 uL					
ICIS 280-430712/16		8260B		4 uL					
STD 280-430712/17 IC		8260B		10 uL					
STD 280-430712/18 IC		8260B		24 uL					
ICV 280-430712/19		8260B							
ICV 280-430712/25		8260B							

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 431136 Batch Start Date: 09/26/18 20:37 Batch Analyst: Nwanguma, Frankline CBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MV-568718-D 00014	MV-ARCH SS A 00103	MV-BFB 00026	MV-MegaMain B 00001
BFB 280-431136/1		8260B		1 uL	1 uL			1 uL	
CCV 280-431136/2		8260B		20 mL	20 mL	1 uL	0.86 uL		
CCV 280-431136/3		8260B		20 mL	20 mL	1 uL			
LCS 280-431136/4		8260B		20 mL	20 mL	1 uL	0.86 uL		2 uL
MB 280-431136/8		8260B		20 mL	20 mL	1 uL	0.86 uL		
280-114332-C-2	AFDV-412	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-C-2	AFDV-412	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-C-3	AFDV-413	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-C-3	AFDV-413	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-E-4	AFDV-414	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-D-5	AFDV-415	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-C-6	AFDV-418	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-F-7	AFDV-405	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-E-7 MS	AFDV-405	8260B	T	20 mL	20 mL	1 uL	0.86 uL		2 uL
280-114332-E-7 MSD	AFDV-405	8260B	T	20 mL	20 mL	1 uL	0.86 uL		2 uL
280-114332-E-8	AFDV-406	8260B	T	20 mL	20 mL	1 uL	0.86 uL		
280-114332-A-9	AFDV-417	8260B	T	20 mL	20 mL	1 uL	0.86 uL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00001	MV-Supp A 00032				
BFB 280-431136/1		8260B							
CCV 280-431136/2		8260B		4 uL					
CCV 280-431136/3		8260B			5 uL				
LCS 280-431136/4		8260B							
MB 280-431136/8		8260B							
280-114332-C-2	AFDV-412	8260B	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260B

Page 1 of 2



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 431136 Batch Start Date: 09/26/18 20:37 Batch Analyst: Nwanguma, Frankline CBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMainA 00001	MV-Supp A 00032				
280-114332-C-2	AFDV-412	8260B	T						
280-114332-C-3	AFDV-413	8260B	T						
280-114332-C-3	AFDV-413	8260B	T						
280-114332-E-4	AFDV-414	8260B	T						
280-114332-D-5	AFDV-415	8260B	T						
280-114332-C-6	AFDV-418	8260B	T						
280-114332-F-7	AFDV-405	8260B	T						
280-114332-E-7 MS	AFDV-405	8260B	T						
280-114332-E-7 MSD	AFDV-405	8260B	T						
280-114332-E-8	AFDV-406	8260B	T						
280-114332-A-9	AFDV-417	8260B	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 431297 Batch Start Date: 09/27/18 17:13 Batch Analyst: McDonald, Melvin RBatch Method: 8260B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	MV-568718-D 00014	MV-ARCH SS A 00102	MV-BFB 00026
BFB 280-431297/1		8260B		1 uL	1 uL				1 uL
CCV 280-431297/2		8260B		20 mL	20 mL		1 uL	1.1 uL	
CCV 280-431297/3		8260B		20 mL	20 mL		1 uL		
LCS 280-431297/4		8260B		20 mL	20 mL		1 uL	1.1 uL	
LCS 280-431297/5		8260B		20 mL	20 mL		1 uL	1.1 uL	
MB 280-431297/6		8260B		20 mL	20 mL		1 uL	1.1 uL	
280-114332-B-1	AFDV-411	8260B	T	20 mL	20 mL	<2 SU	1 uL	1.1 uL	
280-114425-K-1 MS		8260B	T	20 mL	20 mL	<2 SU	1 uL	1.1 uL	
280-114425-K-1 MSD		8260B	T	20 mL	20 mL	<2 SU	1 uL	1.1 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MV-MegaMain B 00001	MV-MegaMainA 00001	MV-Supp A 00032			
BFB 280-431297/1		8260B							
CCV 280-431297/2		8260B			4 uL				
CCV 280-431297/3		8260B				5 uL			
LCS 280-431297/4		8260B		2 uL					
LCS 280-431297/5		8260B		2 uL					
MB 280-431297/6		8260B							
280-114332-B-1	AFDV-411	8260B	T						
280-114425-K-1 MS		8260B	T	2 uL					
280-114425-K-1 MSD		8260B	T	2 uL					

Batch Notes	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 431297 Batch Start Date: 09/27/18 17:13 Batch Analyst: McDonald, Melvin RBatch Method: 8260B Batch End Date: \_\_\_\_\_

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



# Method RSK-175

---

Dissolved Gases (GC) by Method  
RSK\_175



FORM III  
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09201802.D  
Lab ID: LCS 280-430408/2 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	73.0	70.2	96	75-125	
Ethene	128	142	111	75-125	
Ethane	137	144	106	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09201803.D  
 Lab ID: LCSD 280-430408/3 Client ID: \_\_\_\_\_

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	73.0	64.6	89	8	20	75-125	
Ethene	128	129	101	9	20	75-125	
Ethane	137	132	97	9	20	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Matrix: Water Level: Low Lab File ID: 09201825.D  
Lab ID: 280-114332-7 MS Client ID: AFDV-405 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Methane	73.0	6.5	70.1	87	52-145	
Ethene	128	ND	119	93	75-131	
Ethane	137	ND	127	93	75-125	

# Column to be used to flag recovery and RPD values



FORM III  
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Water Level: Low Lab File ID: 09201826.D  
 Lab ID: 280-114332-7 MSD Client ID: AFDV-405 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS		#
					RPD	REC	
Methane	73.0	65.7	81	6	20	52-145	
Ethene	128	113	88	6	20	75-131	
Ethane	137	120	88	6	20	75-125	

# Column to be used to flag recovery and RPD values



FORM IV  
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: MB 280-430408/4  
 Matrix: Water Date Extracted: \_\_\_\_\_  
 Lab File ID: (1) 09201804.D Lab File ID: (2) 09201804.D  
 Date Analyzed: (1) 09/20/2018 17:56 Date Analyzed: (2) 09/20/2018 17:56  
 Instrument ID: (1) VGC\_J Instrument ID: (2) VGC\_J  
 GC Column: (1) HP-Plot Q ID: 0.53(mm) GC Column: (2) Rt-Alumina K ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-430408/2	09/20/2018 17:30	09/20/2018 17:30
	LCSD 280-430408/3	09/20/2018 17:43	09/20/2018 17:43
AFDV-414	280-114332-4	09/20/2018 21:39	09/20/2018 21:39
AFDV-414 DU	280-114332-4 DU	09/20/2018 21:52	09/20/2018 21:52
AFDV-415	280-114332-5	09/20/2018 22:06	09/20/2018 22:06
AFDV-405	280-114332-7	09/20/2018 22:19	09/20/2018 22:19
AFDV-405 MS	280-114332-7 MS	09/20/2018 22:32	09/20/2018 22:32
AFDV-405 MSD	280-114332-7 MSD	09/20/2018 22:45	09/20/2018 22:45
AFDV-406	280-114332-8	09/20/2018 22:58	09/20/2018 22:58



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-405 Lab Sample ID: 280-114332-7  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 22:19 Date Analyzed (2): 09/20/2018 22:19  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.69	1.77	6.5		1.0
	2		1.27	1.25	1.33	6.6		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-405 MS Lab Sample ID: 280-114332-7 MS  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 22:32 Date Analyzed (2): 09/20/2018 22:32  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.69	1.77	70.1		1.2
	2		1.27	1.25	1.33	71.0		
Ethene	1		2.52	2.49	2.59	119		3.2
	2		1.84	1.85	1.95	123		
Ethane	1		2.90	2.87	2.97	127		1.4
	2		1.54	1.53	1.63	129		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-405 MSD Lab Sample ID: 280-114332-7 MSD  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 22:45 Date Analyzed (2): 09/20/2018 22:45  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.70	1.69	1.77	65.7		1.1
	2		1.27	1.25	1.33	66.4		
Ethene	1		2.51	2.49	2.59	113		3.0
	2		1.84	1.85	1.95	116		
Ethane	1		2.89	2.87	2.97	120		1.2
	2		1.54	1.53	1.63	121		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: AFDV-406 Lab Sample ID: 280-114332-8  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 22:58 Date Analyzed (2): 09/20/2018 22:58  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.68	1.69	1.77	6.9		1.2
	2		1.28	1.25	1.33	7.0		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-430408/2  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 17:30 Date Analyzed (2): 09/20/2018 17:30  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.72	1.69	1.77	70.2		0.3
	2		1.29	1.25	1.33	70.0		
Ethene	1		2.54	2.49	2.59	142		1.8
	2		1.89	1.85	1.95	144		
Ethane	1		2.92	2.87	2.97	144		0.2
	2		1.57	1.53	1.63	144		



FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-430408/3  
 Instrument ID (1): VGC\_J Instrument ID (2): VGC\_J  
 Date Analyzed (1): 09/20/2018 17:43 Date Analyzed (2): 09/20/2018 17:43  
 GC Column (1): HP-Plot Q ID: 0.53(mm) GC Column (2): Rt-Alumina KC ID: 0.53(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
Methane	1		1.72	1.69	1.77	64.6		0.2
	2		1.29	1.25	1.33	64.5		
Ethene	1		2.54	2.49	2.59	129		1.8
	2		1.89	1.85	1.95	131		
Ethane	1		2.92	2.87	2.97	132		0.0
	2		1.57	1.53	1.63	132		



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-414 Lab Sample ID: 280-114332-4  
Matrix: Water Lab File ID: 09201821.D  
Analysis Method: RSK-175 Date Collected: 09/13/2018 15:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 21:39  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-415 Lab Sample ID: 280-114332-5  
Matrix: Water Lab File ID: 09201823.D  
Analysis Method: RSK-175 Date Collected: 09/13/2018 14:30  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 22:06  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-405 Lab Sample ID: 280-114332-7  
Matrix: Water Lab File ID: 09201824.D  
Analysis Method: RSK-175 Date Collected: 09/13/2018 11:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 22:19  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	6.5		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-406 Lab Sample ID: 280-114332-8  
Matrix: Water Lab File ID: 09201827.D  
Analysis Method: RSK-175 Date Collected: 09/13/2018 11:10  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 22:58  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	6.9		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33212

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9	LVL 10	RT WINDOW	AVG RT
Methane		1.279	1.277	1.275	1.270	1.268	1.266	1.270	1.270	+++++	1.230 - 1.310	1.272
Ethane	1.560	1.573	1.568	1.571	1.567	1.568	1.566				1.517 - 1.617	1.568
Ethene	1.908	1.913	1.920	1.916	1.913	1.905	1.907				1.863 - 1.963	1.912
Propane	2.737	2.735	2.729	2.726	2.717	2.709	2.696				2.657 - 2.777	2.721
Acetylene	4.193	4.191	4.188	4.181	4.169	4.159	4.147				4.089 - 4.249	4.175
Butane	4.492	4.490	4.486	4.480	4.466	4.452	4.436				4.386 - 4.546	4.472
isobutylene	5.401	5.400	5.396	5.392	5.381	5.372	5.357				5.301 - 5.461	5.386



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33212

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6 LVL 10	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	132701 129896	173312 135607 +++++	150740 129443	137929 170568	Ave		145024.389				12.4		20.0			
Ethane	107908 127620	122815 130469	122930 124928	130529	Ave		123885.767				6.3		20.0			
Ethene	77774 105204	100826 106580	102107 103277	105878	Ave		100235.100				10.1		20.0			
Propane	118353 134289	129005 139215	128295 133298	137405	Ave		131408.481				5.3		20.0			
Acetylene	32017 37545	36103 37520	37072 37508	36764	Ave		36361.2855				5.5		20.0			
Butane	130814 136316	130393 143754	129378 137973	138840	Ave		135352.423				3.9		20.0			
isobutylene	88971 92198	87256 95423	88616 93077	91829	Ave		91052.9114				3.2		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: Rt-Alumina ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33212

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
Methane	Ave	158154 19799464	275113 37798983	2013850 308207757	9687627 938860173	+++++	146	0.913 292	1.83 1807	14.6 7228	73.0 +++++
Ethane	Ave	92299 35710920	210099 68388169	420593	3572729	17465561	0.855 274	1.71 547	3.42	27.4	137
Ethene	Ave	62057 27213526	160901 52739976	325891	2703420	13431071	0.798 255	1.60 511	3.19	25.5	128
Propane	Ave	148467 55884118	323658 107017224	643757	5515735	26953316	1.25 401	2.51 803	5.02	40.1	201
Acetylene	Ave	23717 8893827	53488 17782088	109846	871478	4449917	0.741 237	1.48 474	2.96	23.7	119
Butane	Ave	216270 76052237	431148 145987563	855583	7345233	36058532	1.65 529	3.31 1058	6.61	52.9	265
isobutylene	Ave	142008 48738029	278539 95079391	565765	4690212	23545309	1.60 511	3.19 1022	6.38	51.1	255

Curve Type Legend:

Ave = Average



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9	LVL 10	RT WINDOW	AVG RT
Methane		1.696	1.687	1.695	1.700	1.689	1.691	1.692	1.687	+++++	1.660 - 1.740	1.692
Ethene	2.517	2.518	2.515	2.512	2.508	2.505	2.503				2.458 - 2.558	2.511
Acetylene	2.660	2.660	2.657	2.653	2.649	2.649	2.646				2.569 - 2.729	2.653
Ethane	2.899	2.899	2.892	2.890	2.884	2.882	2.878				2.834 - 2.934	2.889
Propane	4.697	4.696	4.692	4.692	4.686	4.682	4.675				4.626 - 4.746	4.689
isobutylene	6.006	6.004	6.001	6.001	5.996	5.990	5.982				5.916 - 6.076	5.997
Butane	6.158	6.157	6.155	6.152	6.147	6.140	6.129				6.067 - 6.227	6.148



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
CURVE EVALUATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6 LVL 10	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	113882 111673	144705 116496 ++++	126651 111149	118460 146491	Ave		123688.244				11.6		20.0			
Ethene	75879 89688	85786 90805	86870 88006	90294	Ave		86761.1514				5.9		20.0			
Acetylene	28032 32945	30844 32996	31622 33002	32104	Ave		31649.1625				5.7		20.0			
Ethane	91370 109163	103886 112143	103517 107716	111228	Ave		105574.762				6.7		20.0			
Propane	100272 114486	109952 118547	109140 113705	117107	Ave		111886.975				5.5		20.0			
isobutylene	76057 77606	74039 80207	75001 78189	77618	Ave		76959.4153				2.7		20.0			
Butane	110062 115969	110185 122237	109685 117308	118397	Ave		114834.655				4.3		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA  
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Denver Job No.: 280-114332-1 Analy Batch No.: 423985

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J GC Column: HP-Plot Q ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/27/2018 16:08 Calibration End Date: 07/27/2018 18:20 Calibration ID: 33213

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-423985/1	07271801.D
Level 2	IC 280-423985/2	07271802.D
Level 3	IC 280-423985/3	07271804.D
Level 4	IC 280-423985/4	07271805.D
Level 5	ICRT 280-423985/5	07271806.D
Level 6	IC 280-423985/6	07271807.D
Level 7	IC 280-423985/7	07271808.D
Level 8	IC 280-423985/8	07271809.D
Level 9	IC 280-423985/9	07271810.D
Level 10	IC 280-423985/10	07271811.D

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10
Methane	Ave	17009123	132049 32457009	231149 264700518	1729596 807148110	8313745 +++++	146	0.913 292	1.83 1807	14.6 7228	73.0 +++++
Ethene	Ave	60545 23185632	136900 44941752	277260	2305510	11450145	0.798 255	1.60 511	3.19	25.5	128
Acetylene	Ave	20765 7821405	45696 15646052	93697	761001	3904723	0.741 237	1.48 474	2.96	23.7	119
Ethane	Ave	78153 30694702	177718 58966066	354173	3044430	14939591	0.855 274	1.71 547	3.42	27.4	137
Propane	Ave	125786 47587505	275857 91287063	547641	4700926	22978605	1.25 401	2.51 803	5.02	40.1	201
isobutylene	Ave	121395 40966010	236349 79870985	478838	3964374	19818810	1.60 511	3.19 1022	6.38	51.1	255
Butane	Ave	181961 64668909	364330 124122072	725351	6263753	30676289	1.65 529	3.31 1058	6.61	52.9	265

Curve Type Legend:

Ave = Average



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 07271814.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	126499		127	146	-12.8	20.0
Ethane	Ave	123886	121986		270	274	-1.5	20.0
Ethene	Ave	100235	101098		258	255	0.9	20.0
Propane	Ave	131408	129767		396	401	-1.2	20.0
Acetylene	Ave	36361	36957		241	237	1.6	20.0
Butane	Ave	135352	133642		522	529	-1.3	20.0
isobutylene	Ave	91053	90306		507	511	-0.8	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 07271814.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.27	1.23	1.31
Ethane	1.57	1.52	1.62
Ethene	1.91	1.86	1.96
Propane	2.71	2.66	2.78
Acetylene	4.16	4.09	4.25
Butane	4.45	4.39	4.55
isobutylene	5.37	5.30	5.46



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 07271814.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	108850		128	146	-12.0	20.0
Ethene	Ave	86761	86202		254	255	-0.6	20.0
Acetylene	Ave	31649	32463		243	237	2.6	20.0
Ethane	Ave	105575	105007		272	274	-0.5	20.0
Propane	Ave	111887	110733		397	401	-1.0	20.0
isobutylene	Ave	76959	75982		504	511	-1.3	20.0
Butane	Ave	114835	113753		524	529	-0.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICV 280-423985/12 Calibration Date: 07/27/2018 19:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 07271814.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.70	1.66	1.74
Ethene	2.50	2.46	2.56
Acetylene	2.65	2.57	2.73
Ethane	2.88	2.83	2.93
Propane	4.68	4.63	4.75
isobutylene	5.99	5.92	6.08
Butane	6.14	6.07	6.23



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	128113		64.5	73.0	-11.7	20.0
Ethane	Ave	123886	121987		135	137	-1.5	20.0
Ethene	Ave	100235	107097		136	128	6.8	20.0
Propane	Ave	131408	123501		189	201	-6.0	20.0
Acetylene	Ave	36361	34736		113	119	-4.5	20.0
Butane	Ave	135352	115457		226	265	-14.7	20.0
isobutylene	Ave	91053	88903		249	255	-2.4	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.29	1.25	1.33
Ethane	1.58	1.53	1.63
Ethene	1.90	1.85	1.95
Propane	2.64	2.58	2.70
Acetylene	4.06	3.98	4.14
Butane	4.38	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201801.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	109428		64.6	73.0	-11.5	20.0
Ethene	Ave	86761	90860		134	128	4.7	20.0
Acetylene	Ave	31649	30494		114	119	-3.6	20.0
Ethane	Ave	105575	103884		135	137	-1.6	20.0
Propane	Ave	111887	104532		188	201	-6.6	20.0
isobutylene	Ave	76959	74516		247	255	-3.2	20.0
Butane	Ave	114835	97897		226	265	-14.7	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVRT 280-430408/1 Calibration Date: 09/20/2018 17:17  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201801.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.73	1.69	1.77
Ethene	2.54	2.49	2.59
Acetylene	2.68	2.60	2.76
Ethane	2.92	2.87	2.97
Propane	4.70	4.64	4.76
isobutylene	6.01	5.93	6.09
Butane	6.16	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201818.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	131274		66.1	73.0	-9.5	20.0
Ethane	Ave	123886	122255		135	137	-1.3	20.0
Ethene	Ave	100235	98310		125	128	-1.9	20.0
Propane	Ave	131408	122110		187	201	-7.1	20.0
Acetylene	Ave	36361	33445		109	119	-8.0	20.0
Butane	Ave	135352	109919		215	265	-18.8	20.0
isobutylene	Ave	91053	78393		220	255	-13.9	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201818.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.27	1.25	1.33
Ethane	1.54	1.53	1.63
Ethene	1.87	1.85	1.95
Propane	2.61	2.58	2.70
Acetylene	4.06	3.98	4.14
Butane	4.37	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201818.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	113265		66.9	73.0	-8.4	20.0
Ethene	Ave	86761	87342		129	128	0.7	20.0
Acetylene	Ave	31649	29539		111	119	-6.7	20.0
Ethane	Ave	105575	105097		136	137	-0.5	20.0
Propane	Ave	111887	103849		186	201	-7.2	20.0
isobutylene	Ave	76959	72080		239	255	-6.3	20.0
Butane	Ave	114835	98003		226	265	-14.7	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/30 Calibration Date: 09/20/2018 21:00  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201818.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.70	1.69	1.77
Ethene	2.51	2.49	2.59
Acetylene	2.65	2.60	2.76
Ethane	2.89	2.87	2.97
Propane	4.69	4.64	4.76
isobutylene	6.00	5.93	6.09
Butane	6.15	6.08	6.24



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201828.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	145024	118103		59.5	73.0	-18.6	20.0
Ethane	Ave	123886	109920		121	137	-11.3	20.0
Ethene	Ave	100235	92080		117	128	-8.1	20.0
Propane	Ave	131408	109624		167	201	-16.6	20.0
Acetylene	Ave	36361	32758		107	119	-9.9	20.0
Butane	Ave	135352	97579		191	265	-27.9*	20.0
isobutylene	Ave	91053	69927		196	255	-23.2*	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: Rt-Alumina KCl ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201828.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.28	1.25	1.33
Ethane	1.56	1.53	1.63
Ethene	1.87	1.85	1.95
Propane	2.62	2.58	2.70
Acetylene	4.07	3.98	4.14
Butane	4.37	4.30	4.46
isobutylene	5.30	5.22	5.38



FORM VII  
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
 Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
 GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
 Lab File ID: 09201828.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	123688	101664		60.0	73.0	-17.8	20.0
Ethene	Ave	86761	78791		116	128	-9.2	20.0
Acetylene	Ave	31649	28828		108	119	-8.9	20.0
Ethane	Ave	105575	94255		122	137	-10.7	20.0
Propane	Ave	111887	93543		168	201	-16.4	20.0
isobutylene	Ave	76959	58556		194	255	-23.9*	20.0
Butane	Ave	114835	82528		190	265	-28.1*	20.0



FORM VII  
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 280-430408/40 Calibration Date: 09/20/2018 23:11  
Instrument ID: VGC\_J Calib Start Date: 07/27/2018 16:08  
GC Column: HP-Plot Q ID: 0.53 (mm) Calib End Date: 07/27/2018 18:20  
Lab File ID: 09201828.D Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	1.70	1.69	1.77
Ethene	2.52	2.49	2.59
Acetylene	2.66	2.60	2.76
Ethane	2.89	2.87	2.97
Propane	4.69	4.64	4.76
isobutylene	6.00	5.93	6.09
Butane	6.15	6.08	6.24



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 280-430408/4  
Matrix: Water Lab File ID: 09201804.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 17:56  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 280-430408/2  
Matrix: Water Lab File ID: 09201802.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 17:30  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	70.2		5.0	0.64
74-85-1	Ethene	142		5.0	0.40
74-84-0	Ethane	144		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCSD 280-430408/3  
Matrix: Water Lab File ID: 09201803.D  
Analysis Method: RSK-175 Date Collected: \_\_\_\_\_  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 17:43  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	64.6		5.0	0.64
74-85-1	Ethene	129		5.0	0.40
74-84-0	Ethane	132		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-405 MS Lab Sample ID: 280-114332-7 MS  
Matrix: Water Lab File ID: 09201825.D  
Analysis Method: RSK-175 Date Collected: 09/13/2018 11:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 22:32  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	70.1		5.0	0.64
74-85-1	Ethene	119		5.0	0.40
74-84-0	Ethane	127		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-405 MSD Lab Sample ID: 280-114332-7 MSD  
Matrix: Water Lab File ID: 09201826.D  
Analysis Method: RSK-175 Date Collected: 09/13/2018 11:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 22:45  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	65.7		5.0	0.64
74-85-1	Ethene	113		5.0	0.40
74-84-0	Ethane	120		5.0	0.57



FORM I  
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: AFDV-414 DU Lab Sample ID: 280-114332-4 DU  
Matrix: Water Lab File ID: 09201822.D  
Analysis Method: RSK-175 Date Collected: 09/13/2018 15:00  
Sample wt/vol: 18 (mL) Date Analyzed: 09/20/2018 21:52  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: HP-Plot Q ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 430408 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	0.64
74-85-1	Ethene	ND		5.0	0.40
74-84-0	Ethane	ND		5.0	0.57



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 07/27/2018 16:08Analysis Batch Number: 423985End Date: 07/27/2018 19:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-423985/1		07/27/2018 16:08	1	07271801.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/1		07/27/2018 16:08	1	07271801.D	HP-Plot Q 0.53 (mm)
IC 280-423985/2		07/27/2018 16:21	1	07271802.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/2		07/27/2018 16:21	1	07271802.D	HP-Plot Q 0.53 (mm)
IC 280-423985/3		07/27/2018 16:48	1	07271804.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/3		07/27/2018 16:48	1	07271804.D	HP-Plot Q 0.53 (mm)
IC 280-423985/4		07/27/2018 17:01	1	07271805.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/4		07/27/2018 17:01	1	07271805.D	HP-Plot Q 0.53 (mm)
ICRT 280-423985/5		07/27/2018 17:14	1	07271806.D	Rt-Alumina KCl 0.53 (mm)
ICRT 280-423985/5		07/27/2018 17:14	1	07271806.D	HP-Plot Q 0.53 (mm)
IC 280-423985/6		07/27/2018 17:27	1	07271807.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/6		07/27/2018 17:27	1	07271807.D	HP-Plot Q 0.53 (mm)
IC 280-423985/7		07/27/2018 17:41	1	07271808.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/7		07/27/2018 17:41	1	07271808.D	HP-Plot Q 0.53 (mm)
IC 280-423985/8		07/27/2018 17:54	1	07271809.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/8		07/27/2018 17:54	1	07271809.D	HP-Plot Q 0.53 (mm)
IC 280-423985/9		07/27/2018 18:07	1	07271810.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/9		07/27/2018 18:07	1	07271810.D	HP-Plot Q 0.53 (mm)
IC 280-423985/10		07/27/2018 18:20	1	07271811.D	Rt-Alumina KCl 0.53 (mm)
IC 280-423985/10		07/27/2018 18:20	1	07271811.D	HP-Plot Q 0.53 (mm)
ICV 280-423985/12		07/27/2018 19:00	1	07271814.D	Rt-Alumina KCl 0.53 (mm)
ICV 280-423985/12		07/27/2018 19:00	1	07271814.D	HP-Plot Q 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica DenverJob No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_JStart Date: 09/20/2018 17:17Analysis Batch Number: 430408End Date: 09/20/2018 23:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 280-430408/1		09/20/2018 17:17	1	09201801.D	Rt-Alumina KCl 0.53 (mm)
CCVRT 280-430408/1		09/20/2018 17:17	1	09201801.D	HP-Plot Q 0.53 (mm)
LCS 280-430408/2		09/20/2018 17:30	1	09201802.D	Rt-Alumina KCl 0.53 (mm)
LCS 280-430408/2		09/20/2018 17:30	1	09201802.D	HP-Plot Q 0.53 (mm)
LCSD 280-430408/3		09/20/2018 17:43	1	09201803.D	Rt-Alumina KCl 0.53 (mm)
LCSD 280-430408/3		09/20/2018 17:43	1	09201803.D	HP-Plot Q 0.53 (mm)
MB 280-430408/4		09/20/2018 17:56	1	09201804.D	Rt-Alumina KCl 0.53 (mm)
MB 280-430408/4		09/20/2018 17:56	1	09201804.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 18:09	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 18:09	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 18:22	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 18:22	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 18:35	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 18:35	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 18:49	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 18:49	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:02	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:02	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:15	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:15	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:28	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:28	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:41	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:41	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 19:54	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 19:54	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 20:07	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 20:07	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 20:20	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 20:20	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 20:34	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 20:34	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 20:47	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 20:47	1		HP-Plot Q 0.53 (mm)
CCV 280-430408/30		09/20/2018 21:00	1	09201818.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-430408/30		09/20/2018 21:00	1	09201818.D	HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 21:13	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 21:13	1		HP-Plot Q 0.53 (mm)
ZZZZZ		09/20/2018 21:26	1		Rt-Alumina KCl 0.53 (mm)
ZZZZZ		09/20/2018 21:26	1		HP-Plot Q 0.53 (mm)
280-114332-4		09/20/2018 21:39	1	09201821.D	Rt-Alumina KCl 0.53 (mm)
280-114332-4		09/20/2018 21:39	1	09201821.D	HP-Plot Q 0.53 (mm)
280-114332-4 DU		09/20/2018 21:52	1	09201822.D	Rt-Alumina KCl 0.53 (mm)
280-114332-4 DU		09/20/2018 21:52	1	09201822.D	HP-Plot Q 0.53 (mm)
280-114332-5		09/20/2018 22:06	1	09201823.D	Rt-Alumina KCl 0.53 (mm)



## GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: VGC\_J Start Date: 09/20/2018 17:17Analysis Batch Number: 430408 End Date: 09/20/2018 23:11

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
280-114332-5		09/20/2018 22:06	1	09201823.D	HP-Plot Q 0.53 (mm)
280-114332-7		09/20/2018 22:19	1	09201824.D	Rt-Alumina KCl 0.53 (mm)
280-114332-7		09/20/2018 22:19	1	09201824.D	HP-Plot Q 0.53 (mm)
280-114332-7 MS		09/20/2018 22:32	1	09201825.D	Rt-Alumina KCl 0.53 (mm)
280-114332-7 MS		09/20/2018 22:32	1	09201825.D	HP-Plot Q 0.53 (mm)
280-114332-7 MSD		09/20/2018 22:45	1	09201826.D	Rt-Alumina KCl 0.53 (mm)
280-114332-7 MSD		09/20/2018 22:45	1	09201826.D	HP-Plot Q 0.53 (mm)
280-114332-8		09/20/2018 22:58	1	09201827.D	Rt-Alumina KCl 0.53 (mm)
280-114332-8		09/20/2018 22:58	1	09201827.D	HP-Plot Q 0.53 (mm)
CCV 280-430408/40		09/20/2018 23:11	1	09201828.D	Rt-Alumina KCl 0.53 (mm)
CCV 280-430408/40		09/20/2018 23:11	1	09201828.D	HP-Plot Q 0.53 (mm)



# GENERAL CHEMISTRY



COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-114332-1

SDG No.: \_\_\_\_\_

Project: THAN Davenport, IA - Groundwater

Client Sample ID

AFDV-414

AFDV-415

AFDV-405

AFDV-406

Lab Sample ID

280-114332-4

280-114332-5

280-114332-7

280-114332-8

Comments:

\_\_\_\_\_



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-414

Lab Sample ID: 280-114332-4

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG ID.:

Matrix: Water

Date Sampled: 09/13/2018 15:00

Reporting Basis: WET

Date Received: 09/14/2018 09:20

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	ND	6.0	0.51	mg/L			2	300.0
14797-55-8	Nitrate as N	ND	1.0	0.084	mg/L			2	300.0
14808-79-8	Sulfate	0.51	10	0.46	mg/L	J	B	2	300.0
7440-44-0	Total Organic Carbon - Average	ND	1.0	0.16	mg/L			1	9060
	Alkalinity	1.6	5.0	1.1	mg/L	J		1	SM 2320B
15438-31-0	Ferrous Iron	0.028	0.20	0.021	mg/L	J	HF B	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-415

Lab Sample ID: 280-114332-5

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG ID.:

Matrix: Water

Date Sampled: 09/13/2018 14:30

Reporting Basis: WET

Date Received: 09/14/2018 09:20

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	ND	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	ND	5.0	0.23	mg/L			1	300.0
7440-44-0	Total Organic Carbon - Average	ND	1.0	0.16	mg/L			1	9060
	Alkalinity	1.6	5.0	1.1	mg/L	J		1	SM 2320B
15438-31-0	Ferrous Iron	0.025	0.20	0.021	mg/L	J	HF B	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-405

Lab Sample ID: 280-114332-7

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG ID.:

Matrix: Water

Date Sampled: 09/13/2018 11:00

Reporting Basis: WET

Date Received: 09/14/2018 09:20

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	26	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	160	5.0	0.23	mg/L		B	1	300.0
7440-44-0	Total Organic Carbon - Average	2.0	1.0	0.16	mg/L			1	9060
	Alkalinity	330	5.0	1.1	mg/L			1	SM 2320B
15438-31-0	Ferrous Iron	0.059	0.20	0.021	mg/L	J	HF B	1	SM3500_F E_D



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-406

Lab Sample ID: 280-114332-8

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG ID.:

Matrix: Water

Date Sampled: 09/13/2018 11:10

Reporting Basis: WET

Date Received: 09/14/2018 09:20

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
18496-25-8	Sulfide	ND	1.0	0.50	mg/L			1	SM 4500 S2_F
16887-00-6	Chloride	26	3.0	0.25	mg/L			1	300.0
14797-55-8	Nitrate as N	ND	0.50	0.042	mg/L			1	300.0
14808-79-8	Sulfate	160	5.0	0.23	mg/L		B	1	300.0
7440-44-0	Total Organic Carbon - Average	2.0	1.0	0.16	mg/L			1	9060
	Alkalinity	330	5.0	1.1	mg/L			1	SM 2320B
15438-31-0	Ferrous Iron	0.038	0.20	0.021	mg/L	J	HF B	1	SM3500_F E_D



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Analyst: TLP Batch Start Date: 09/02/2018  
Reporting Units: mg/L Analytical Batch No.: 428351

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	05:21	Nitrate as N	3.81	4.00	95	90-110		IC ICV 5_00207
9	ICB	05:43	Nitrate as N	0.0433				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Analyst: ARM Batch Start Date: 09/14/2018  
 Reporting Units: mg/L Analytical Batch No.: 429688

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	09:26	Chloride	99.2	100	99	90-110		IC LCS_01342
			Sulfate	98.8	100	99	90-110		IC LCS_01342
2	CCB	09:47	Chloride	ND					
			Sulfate	0.277				J	
17	CCV	22:42	Chloride	100	100	100	90-110		IC LCS_01342
			Sulfate	99.5	100	100	90-110		IC LCS_01342
18	CCB	23:04	Chloride	ND					
			Sulfate	0.279				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Analyst: ARM Batch Start Date: 09/14/2018  
Reporting Units: mg/L Analytical Batch No.: 429689

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	09:26	Nitrate as N	4.86	5.00	97	90-110		IC LCS_01342
2	CCB	09:47	Nitrate as N	ND					
17	CCV	22:42	Nitrate as N	4.89	5.00	98	90-110		IC LCS_01342
18	CCB	23:04	Nitrate as N	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Analyst: LPL Batch Start Date: 09/21/2018  
 Reporting Units: mg/L Analytical Batch No.: 430832

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	16:06	Total Organic Carbon - Average	19.3	20.0	97	90-110		TOC ICV Std_00035
2	ICB	16:21	Total Organic Carbon - Average	ND					
15	CCV	19:56	Total Organic Carbon - Average	25.0	25.0	100	90-110		TOC LCS Std_00041
16	CCB	20:11	Total Organic Carbon - Average	ND					
27	CCV	23:05	Total Organic Carbon - Average	25.3	25.0	101	90-110		TOC LCS Std_00041
28	CCB	23:22	Total Organic Carbon - Average	ND					
39	CCV	02:14	Total Organic Carbon - Average	25.3	25.0	101	90-110		TOC LCS Std_00041
40	CCB	02:33	Total Organic Carbon - Average	ND					
51	CCV	05:34	Total Organic Carbon - Average	25.1	25.0	100	90-110		TOC LCS Std_00041
52	CCB	05:49	Total Organic Carbon - Average	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Analyst: SGB Batch Start Date: 09/18/2018  
Reporting Units: mg/L Analytical Batch No.: 430188

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
67	CCV	21:28	Alkalinity	208	200	104	90-110		Alk daily lcs 00767
68	CCB	21:33	Alkalinity	ND					
81	CCV	22:44	Alkalinity	212	200	106	90-110		Alk daily lcs 00767
82	CCB	22:50	Alkalinity	3.87				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
SDG No.: \_\_\_\_\_  
Analyst: IEU Batch Start Date: 09/26/2018  
Reporting Units: mg/L Analytical Batch No.: 431131

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	18:20	Ferrous Iron	1.04	1.00	104	90-110		FE ICV INT_00507
2	ICB	18:20	Ferrous Iron	0.0231				J	
14	CCV	18:20	Ferrous Iron	1.04	1.00	104	90-110		FE Cal INT_00507
15	CCB	18:20	Ferrous Iron	0.0231				J	
20	CCV	21:01	Ferrous Iron	1.01	1.00	101	90-110		FE Cal INT_00507
21	CCB	21:01	Ferrous Iron	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



3-IN  
METHOD BLANK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 429688 Date: 09/14/2018 11:16							
300.0	MB 280-429688/6	Chloride	ND		mg/L	3.0	1
300.0	MB 280-429688/6	Sulfate	0.262	J	mg/L	5.0	1
Batch ID: 429689 Date: 09/14/2018 11:16							
300.0	MB 280-429689/6	Nitrate as N	ND		mg/L	0.50	1
Batch ID: 430832 Date: 09/21/2018 16:50							
9060	MB 280-430832/4	Total Organic Carbon - Average	ND		mg/L	1.0	1
Batch ID: 430832 Date: 09/22/2018 01:11							
9060	MB 280-430832/35	Total Organic Carbon - Average	ND		mg/L	1.0	1
Batch ID: 430188 Date: 09/18/2018 21:43							
SM 2320B	MB 280-430188/70	Alkalinity	ND		mg/L	5.0	1
Batch ID: 430175 Date: 09/19/2018 10:33							
SM 4500 S2 F	MB 280-430175/1	Sulfide	ND		mg/L	1.0	1
Batch ID: 431131 Date: 09/26/2018 18:20							
SM3500_FE_D	MB 280-431131/5	Ferrous Iron	0.0424	J	mg/L	0.20	1



5-IN  
MATRIX SPIKE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 429688 Date: 09/14/2018 19:44											
300.0	280-114332-7	Chloride	26		mg/L						
300.0	280-114332-7	Chloride	53.1		mg/L	25.0	107	80-120			
	MS										
300.0	280-114332-7	Sulfate	160		mg/L						B
300.0	280-114332-7	Sulfate	186		mg/L	25.0	96	80-120			4
	MS										
Batch ID: 429689 Date: 09/14/2018 19:44											
300.0	280-114332-7	Nitrate as N	ND		mg/L						
300.0	280-114332-7	Nitrate as N	5.02		mg/L	5.00	100	80-120			
	MS										
Batch ID: 430832 Date: 09/21/2018 21:27											
9060	280-114332-7	Total Organic Carbon - Average	2.0		mg/L						
9060	280-114332-7	Total Organic Carbon - Average	27.2		mg/L	25.0	101	88-112			
	MS										
Batch ID: 430175 Date: 09/19/2018 10:33											
SM 4500 S2 F	280-114332-7	Sulfide	ND		mg/L						
SM 4500 S2 F	280-114332-7	Sulfide	27.8		mg/L	27.6	101	90-110			
	MS										
Batch ID: 431131 Date: 09/26/2018 18:20											
SM3500_ FE_D	280-114332-7	Ferrous Iron	0.059	J	mg/L						HF B
SM3500_ FE_D	280-114332-7	Ferrous Iron	0.347		mg/L	2.00	14	85-113			HF
	MS										

Calculations are performed before rounding to avoid round-off errors in calculated results.



5-IN  
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 429688 Date: 09/14/2018 20:06											
300.0	280-114332-7	Chloride	53.4		mg/L	25.0	108	80-120	1	20	
300.0	280-114332-7	Sulfate	186		mg/L	25.0	97	80-120	0	20	4
MSD											
Batch ID: 429689 Date: 09/14/2018 20:06											
300.0	280-114332-7	Nitrate as N	5.08		mg/L	5.00	102	80-120	1	20	
MSD											
Batch ID: 430832 Date: 09/21/2018 21:41											
9060	280-114332-7	Total Organic Carbon - Average	27.4		mg/L	25.0	101	88-112	1	15	
MSD											
Batch ID: 430175 Date: 09/19/2018 10:33											
SM 4500 S2 F	280-114332-7	Sulfide	28.0		mg/L	27.6	101	90-110	1	10	
MSD											
Batch ID: 431131 Date: 09/26/2018 18:20											
SM3500_FED	280-114332-7	Ferrous Iron	0.352		mg/L	2.00	15	85-113	1	10	HF
MSD											

Calculations are performed before rounding to avoid round-off errors in calculated results.



6-IN  
DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 429688 Date: 09/14/2018 19:22								
300.0	AFDV-405	280-114332-7	Chloride	26	mg/L			
300.0	AFDV-405	280-114332-7 DU	Chloride	26.4	mg/L	0.2	15	
300.0	AFDV-405	280-114332-7	Sulfate	160	mg/L			
300.0	AFDV-405	280-114332-7 DU	Sulfate	162	mg/L	0	15	
Batch ID: 429689 Date: 09/14/2018 19:22								
300.0	AFDV-405	280-114332-7	Nitrate as N	ND	mg/L			
300.0	AFDV-405	280-114332-7 DU	Nitrate as N	ND	mg/L	NC	15	
Batch ID: 430188 Date: 09/18/2018 21:53								
SM 2320B	AFDV-414	280-114332-4	Alkalinity	1.6	mg/L			J
SM 2320B	AFDV-414	280-114332-4 DU	Alkalinity	1.33	mg/L	20	10	J F5
Batch ID: 431131 Date: 09/26/2018 18:20								
SM3500_FE_ D	AFDV-405	280-114332-7	Ferrous Iron	0.059	mg/L			J
SM3500_FE_ D	AFDV-405	280-114332-7 DU	Ferrous Iron	0.0545	mg/L		10	J

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
LAB CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 429688 Date: 09/14/2018 10:32											
						LCS Source: IC LCS_01342					
300.0	LCS	Chloride	99.2		mg/L	100	99	90-110	0	10	
	280-429688/4										
300.0	LCS	Sulfate	98.7		mg/L	100	99	90-110	0	10	
	280-429688/4										
Batch ID: 429689 Date: 09/14/2018 10:32											
						LCS Source: IC LCS_01342					
300.0	LCS	Nitrate as N	4.84		mg/L	5.00	97	90-110	0	10	
	280-429689/4										
Batch ID: 430832 Date: 09/21/2018 16:35											
						LCS Source: TOC LCS Std_00041					
9060	LCS	Total Organic Carbon - Average	24.6		mg/L	25.0	99	88-112			
	280-430832/3										
Batch ID: 430832 Date: 09/22/2018 00:56											
						LCS Source: TOC LCS Std_00041					
9060	LCS	Total Organic Carbon - Average	25.5		mg/L	25.0	102	88-112			
	280-430832/34										
Batch ID: 430188 Date: 09/18/2018 21:38											
						LCS Source: Alk daily lcs_00767					
SM 2320B	LCS	Alkalinity	206		mg/L	200	103	90-110			
	280-430188/69										
Batch ID: 430175 Date: 09/19/2018 10:33											
						LCS Source: SFD CAL INT_01544					
SM 4500 S2 F	LCS	Sulfide	27.8		mg/L	27.6	101	90-110			
	280-430175/2										
Batch ID: 431131 Date: 09/26/2018 18:20											
						LCS Source: FE ICV INT_00507					
SM3500_FED	LCS	Ferrous Iron	2.05		mg/L	2.00	103	85-113	1	10	
	280-431131/3										

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
LAB CONTROL SAMPLE DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 429688 Date: 09/14/2018 10:54											
						LCSD Source: IC LCS_01342					
300.0	LCSD	Chloride	99.2		mg/L	100	99	90-110	0	10	
	280-429688/5										
300.0	LCSD	Sulfate	98.7		mg/L	100	99	90-110	0	10	
	280-429688/5										
Batch ID: 429689 Date: 09/14/2018 10:54											
						LCSD Source: IC LCS_01342					
300.0	LCSD	Nitrate as N	4.84		mg/L	5.00	97	90-110	0	10	
	280-429689/5										
Batch ID: 431131 Date: 09/26/2018 18:20											
						LCSD Source: FE ICV INT_00507					
SM3500_	LCSD	Ferrous Iron	2.08		mg/L	2.00	104	85-113	1	10	
FE D	280-431131/4										

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
METHOD REPORTING LIMIT CHECK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 429688 Date: 09/14/2018 10:10											
						LCS Source: IC CAL cl/so4_00219					
300.0	MRL 280-429688/3	Chloride	2.59	J	mg/L	2.50	104	50-150			
300.0	MRL 280-429688/3	Sulfate	2.56	J	mg/L	2.50	103	50-150			
Batch ID: 429689 Date: 09/14/2018 10:10											
						LCS Source: IC Cal low_00399					
300.0	MRL 280-429689/3	Nitrate as N	0.200	J	mg/L	0.200	100	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-114332-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: NOEQUIP  
Method: SM 4500 S2 F MDL Date: 03/12/2010 15:52

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Sulfide		1	0.495



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-114332-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: NOEQUIP  
Method: SM 4500 S2 F XMDL Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Sulfide		1	0.495



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-114332-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom8  
Method: 300.0 MDL Date: 03/28/2011 13:33

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate as N		0.5	0.042



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-114332-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom8

Method: 300.0

MDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-114332-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_IonChrom8

Method: 300.0

XMDL Date: 03/28/2011 13:33

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate as N		0.5	0.0425



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-114332-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom8  
Method: 300.0 XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chloride		3	0.254
Sulfate		5	0.232



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-114332-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_SHI3

Method: 9060

MDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon - Average		1	0.155



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-114332-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_SHI3

Method: 9060

XMDL Date: 03/28/2011 11:39

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon - Average		1	0.155



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-114332-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC-AT3  
Method: SM 2320B MDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Alkalinity		5	1.07



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-114332-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC-AT3  
Method: SM 2320B XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Alkalinity		5	1.07



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-114332-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_HACH SPEC  
Method: SM3500\_FE\_D MDL Date: 03/28/2011 12:11

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ferrous Iron		0.2	0.021



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-114332-1

SDG Number: \_\_\_\_\_

Matrix: Water

Instrument ID: WC\_HACH SPEC

Method: SM3500\_FE\_D

XMDL Date: 03/28/2011 12:11

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ferrous Iron		0.2	0.0207



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: NOEQUIP Analysis Method: SM 4500 S2 F  
 Start Date: 09/19/2018 10:33 End Date: 09/19/2018 10:37

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				S 2																									
MB 280-430175/1	1	T	10:33	X																									
LCS 280-430175/2	1	T	10:33	X																									
280-114332-7	1	T	10:33	X																									
280-114332-7 MS	1	T	10:33	X																									
280-114332-7 MSD	1	T	10:33	X																									
280-114332-8	1	T	10:33	X																									
280-114332-4	1	T	10:33	X																									
280-114332-5	1	T	10:33	X																									
ZZZZZZ			10:33																										
ZZZZZZ			10:33																										
ZZZZZZ			10:33																										
ZZZZZZ			10:33																										
ZZZZZZ			10:33																										
ZZZZZZ			10:37																										
ZZZZZZ			10:37																										
ZZZZZZ			10:37																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom8 Analysis Method: 300.0  
 Start Date: 09/01/2018 11:34 End Date: 09/02/2018 13:30

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				N O 3																									
RTC 280-428351/1			11:34																										
STD 280-428351/2 IC	1		11:56	X																									
STD 280-428351/3 IC	1		12:18	X																									
STD 280-428351/4 IC	1		12:40	X																									
STD 280-428351/5 IC	1		13:02	X																									
STD 280-428351/6 IC	1		04:37	X																									
STD 280-428351/7 IC	1		04:58	X																									
ICV 280-428351/8	1		05:21	X																									
ICB 280-428351/9	1		05:43	X																									
ZZZZZZ			06:05																										
ZZZZZZ			06:27																										
ZZZZZZ			06:50																										
ZZZZZZ			07:12																										
ZZZZZZ			10:10																										
ZZZZZZ			10:32																										
ZZZZZZ			10:54																										
CCV 280-428351/24			11:16																										
CCB 280-428351/25			11:38																										
ZZZZZZ			12:01																										
ZZZZZZ			12:23																										
ZZZZZZ			12:45																										
ZZZZZZ			13:07																										
ZZZZZZ			13:30																										

Prep Types: \_\_\_\_\_  
 =



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8

Analysis Method: 300.0

Start Date: 09/14/2018 09:26

End Date: 09/15/2018 10:11

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
CCV 280-429688/1	1		09:26	X	X																								
CCB 280-429688/2	1		09:47	X	X																								
MRL 280-429688/3	1	T	10:10	X	X																								
LCS 280-429688/4	1	T	10:32	X	X																								
LCSD 280-429688/5	1	T	10:54	X	X																								
MB 280-429688/6	1	T	11:16	X	X																								
280-114332-7	1	T	19:00	X	X																								
280-114332-7 DU	1	T	19:22	X	X																								
280-114332-7 MS	1	T	19:44	X	X																								
280-114332-7 MSD	1	T	20:06	X	X																								
280-114332-4	2	T	20:28	X	X																								
ZZZZZZ			20:51																										
280-114332-5	1	T	21:13	X	X																								
280-114332-8	1	T	21:35	X	X																								
ZZZZZZ			21:57																										
ZZZZZZ			22:19																										
CCV 280-429688/17	1		22:42	X	X																								
CCB 280-429688/18	1		23:04	X	X																								
ZZZZZZ			23:26																										
ZZZZZZ			23:48																										
ZZZZZZ			00:11																										
ZZZZZZ			00:33																										
ZZZZZZ			00:55																										
ZZZZZZ			01:17																										
ZZZZZZ			01:39																										
ZZZZZZ			02:02																										
ZZZZZZ			02:24																										
ZZZZZZ			02:46																										
CCV 280-429688/29			03:08																										
CCB 280-429688/30			03:31																										
ZZZZZZ			03:53																										
ZZZZZZ			04:15																										
ZZZZZZ			04:37																										
ZZZZZZ			04:59																										
ZZZZZZ			05:22																										
ZZZZZZ			05:44																										
ZZZZZZ			06:06																										
ZZZZZZ			06:28																										
ZZZZZZ			06:51																										
ZZZZZZ			07:13																										
CCV 280-429688/41			07:35																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom8 Analysis Method: 300.0  
 Start Date: 09/14/2018 09:26 End Date: 09/15/2018 10:11

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -	S O 4																								
CCB 280-429688/42			07:57																										
ZZZZZZ			08:19																										
ZZZZZZ			08:42																										
ZZZZZZ			09:04																										
ZZZZZZ			09:26																										
CCV 280-429688/47			09:48																										
CCB 280-429688/48			10:11																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom8

Analysis Method: 300.0

Start Date: 09/14/2018 09:26

End Date: 09/15/2018 10:11

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				N O 3																									
CCV 280-429689/1	1		09:26	X																									
CCB 280-429689/2	1		09:47	X																									
MRL 280-429689/3	1	T	10:10	X																									
LCS 280-429689/4	1	T	10:32	X																									
LCSD 280-429689/5	1	T	10:54	X																									
MB 280-429689/6	1	T	11:16	X																									
280-114332-7	1	T	19:00	X																									
280-114332-7 DU	1	T	19:22	X																									
280-114332-7 MS	1	T	19:44	X																									
280-114332-7 MSD	1	T	20:06	X																									
280-114332-4	2	T	20:28	X																									
ZZZZZZ			20:51																										
280-114332-5	1	T	21:13	X																									
280-114332-8	1	T	21:35	X																									
ZZZZZZ			21:57																										
ZZZZZZ			22:19																										
CCV 280-429689/17	1		22:42	X																									
CCB 280-429689/18	1		23:04	X																									
ZZZZZZ			23:26																										
ZZZZZZ			23:48																										
ZZZZZZ			00:11																										
ZZZZZZ			00:33																										
ZZZZZZ			00:55																										
ZZZZZZ			01:17																										
ZZZZZZ			01:39																										
ZZZZZZ			02:02																										
ZZZZZZ			02:24																										
ZZZZZZ			02:46																										
CCV 280-429689/29			03:08																										
CCB 280-429689/30			03:31																										
ZZZZZZ			03:53																										
ZZZZZZ			04:15																										
ZZZZZZ			04:37																										
ZZZZZZ			04:59																										
ZZZZZZ			05:22																										
ZZZZZZ			05:44																										
ZZZZZZ			06:06																										
ZZZZZZ			06:28																										
ZZZZZZ			06:51																										
ZZZZZZ			07:13																										
CCV 280-429689/41			07:35																										



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom8 Analysis Method: 300.0  
 Start Date: 09/14/2018 09:26 End Date: 09/15/2018 10:11

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				N O 3																									
CCB 280-429689/42			07:57																										
ZZZZZZ			08:19																										
CCV 280-429689/47			09:48																										
CCB 280-429689/48			10:11																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI3 Analysis Method: 9060  
 Start Date: 09/21/2018 16:06 End Date: 09/22/2018 07:03

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				T O C Q																									
ICV 280-430832/1	1		16:06	X																									
ICB 280-430832/2	1		16:21	X																									
LCS 280-430832/3	1	T	16:35	X																									
MB 280-430832/4	1	T	16:50	X																									
ZZZZZZ			17:07																										
ZZZZZZ			17:26																										
ZZZZZZ			17:45																										
ZZZZZZ			17:59																										
ZZZZZZ			18:14																										
ZZZZZZ			18:29																										
ZZZZZZ			18:43																										
ZZZZZZ			19:04																										
ZZZZZZ			19:19																										
ZZZZZZ			19:38																										
CCV 280-430832/15	1		19:56	X																									
CCB 280-430832/16	1		20:11	X																									
ZZZZZZ			20:26																										
ZZZZZZ			20:41																										
ZZZZZZ			20:57																										
280-114332-7	1	T	21:12	X																									
280-114332-7 MS	1	T	21:27	X																									
280-114332-7 MSD	1	T	21:41	X																									
ZZZZZZ			21:58																										
ZZZZZZ			22:15																										
ZZZZZZ			22:34																										
ZZZZZZ			22:51																										
CCV 280-430832/27	1		23:05	X																									
CCB 280-430832/28	1		23:22	X																									
ZZZZZZ			23:39																										
ZZZZZZ			23:53																										
ZZZZZZ			00:10																										
280-114332-4	1	T	00:27	X																									
280-114332-5	1	T	00:42	X																									
LCS 280-430832/34	1	T	00:56	X																									
MB 280-430832/35	1	T	01:11	X																									
ZZZZZZ			01:26																										
ZZZZZZ			01:43																										
ZZZZZZ			02:00																										
CCV 280-430832/39	1		02:14	X																									
CCB 280-430832/40	1		02:33	X																									



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_SHI3 Analysis Method: 9060  
 Start Date: 09/21/2018 16:06 End Date: 09/22/2018 07:03

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				T O C Q																									
ZZZZZZ			02:50																										
280-114332-8	1	T	03:07	X																									
ZZZZZZ			03:24																										
ZZZZZZ			03:40																										
ZZZZZZ			03:55																										
ZZZZZZ			04:15																										
ZZZZZZ			04:33																										
ZZZZZZ			04:50																										
ZZZZZZ			05:05																										
ZZZZZZ			05:20																										
CCV 280-430832/51	1		05:34	X																									
CCB 280-430832/52	1		05:49	X																									
ZZZZZZ			06:04																										
ZZZZZZ			06:19																										
ZZZZZZ			06:33																										
CCV 280-430832/56			06:48																										
CCB 280-430832/57			07:03																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC-AT3 Analysis Method: SM 2320B  
 Start Date: 09/18/2018 13:24 End Date: 09/19/2018 02:12

Lab Sample Id	D/F	T y p e	Time	Analytes																	
				A l k																	
ZZZZZZ			13:24																		
ZZZZZZ			13:30																		
ZZZZZZ			13:44																		
ZZZZZZ			13:50																		
ZZZZZZ			13:55																		
ZZZZZZ			14:01																		
ZZZZZZ			14:07																		
ZZZZZZ			14:13																		
ZZZZZZ			14:19																		
ZZZZZZ			14:25																		
ZZZZZZ			14:31																		
ZZZZZZ			14:38																		
ZZZZZZ			14:48																		
ZZZZZZ			15:00																		
CCV 280-430188/15			15:06																		
CCB 280-430188/16			15:11																		
ZZZZZZ			15:17																		
ZZZZZZ			15:21																		
ZZZZZZ			15:34																		
ZZZZZZ			15:47																		
ZZZZZZ			15:58																		
ZZZZZZ			16:09																		
ZZZZZZ			16:20																		
ZZZZZZ			16:28																		
ZZZZZZ			16:36																		
ZZZZZZ			16:46																		
ZZZZZZ			16:55																		
ZZZZZZ			17:01																		
CCV 280-430188/29			17:06																		
CCB 280-430188/30			17:11																		
ZZZZZZ			17:16																		
ZZZZZZ			17:22																		
ZZZZZZ			17:31																		
ZZZZZZ			17:42																		
ZZZZZZ			17:54																		
ZZZZZZ			18:04																		
ZZZZZZ			18:15																		
ZZZZZZ			18:28																		
ZZZZZZ			18:39																		
ZZZZZZ			18:46																		
CCV 280-430188/41			18:52																		



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Instrument ID: WC-AT3

Analysis Method: SM 2320B

Start Date: 09/18/2018 13:24

End Date: 09/19/2018 02:12

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				A l k																									
CCB 280-430188/42			18:57																										
ZZZZZZ			19:03																										
ZZZZZZ			19:08																										
ZZZZZZ			19:14																										
ZZZZZZ			19:20																										
ZZZZZZ			19:26																										
ZZZZZZ			19:32																										
ZZZZZZ			19:37																										
ZZZZZZ			19:43																										
ZZZZZZ			19:49																										
ZZZZZZ			19:56																										
ZZZZZZ			20:01																										
ZZZZZZ			20:07																										
CCV 280-430188/55			20:13																										
CCB 280-430188/56			20:18																										
ZZZZZZ			20:25																										
ZZZZZZ			20:30																										
ZZZZZZ			20:36																										
ZZZZZZ			20:42																										
ZZZZZZ			20:48																										
ZZZZZZ			20:55																										
ZZZZZZ			21:02																										
ZZZZZZ			21:09																										
ZZZZZZ			21:15																										
ZZZZZZ			21:22																										
CCV 280-430188/67	1		21:28	X																									
CCB 280-430188/68	1		21:33	X																									
LCS 280-430188/69	1	T	21:38	X																									
MB 280-430188/70	1	T	21:43	X																									
280-114332-4	1	T	21:48	X																									
280-114332-4 DU	1	T	21:53	X																									
280-114332-5	1	T	21:58	X																									
280-114332-7	1	T	22:05	X																									
280-114332-8	1	T	22:11	X																									
ZZZZZZ			22:17																										
ZZZZZZ			22:22																										
ZZZZZZ			22:27																										
ZZZZZZ			22:33																										
ZZZZZZ			22:38																										
CCV 280-430188/81	1		22:44	X																									
CCB 280-430188/82	1		22:50	X																									



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC-AT3 Analysis Method: SM 2320B  
 Start Date: 09/18/2018 13:24 End Date: 09/19/2018 02:12

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				A l k																									
ZZZZZZ			22:56																										
ZZZZZZ			23:02																										
ZZZZZZ			23:07																										
ZZZZZZ			23:13																										
ZZZZZZ			23:18																										
ZZZZZZ			23:24																										
ZZZZZZ			23:29																										
ZZZZZZ			23:35																										
ZZZZZZ			23:41																										
ZZZZZZ			23:48																										
CCV 280-430188/93			23:54																										
CCB 280-430188/94			23:59																										
ZZZZZZ			00:05																										
ZZZZZZ			00:11																										
ZZZZZZ			00:24																										
ZZZZZZ			00:36																										
ZZZZZZ			00:43																										
ZZZZZZ			00:50																										
ZZZZZZ			00:58																										
ZZZZZZ			01:04																										
ZZZZZZ			01:10																										
ZZZZZZ			01:16																										
ZZZZZZ			01:25																										
ZZZZZZ			01:32																										
CCV 280-430188/107			01:39																										
CCB 280-430188/108			01:45																										
ZZZZZZ			01:52																										
ZZZZZZ			02:01																										
CCV 280-430188/111			02:06																										
CCB 280-430188/112			02:12																										

Prep Types: \_\_\_\_\_  
 T = Total/NA



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-114332-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_HACH SPEC Analysis Method: SM3500\_FE\_D  
 Start Date: 09/26/2018 18:20 End Date: 09/26/2018 21:01

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				F e 2																									
ICV 280-431131/1	1		18:20	X																									
ICB 280-431131/2	1		18:20	X																									
LCS 280-431131/3	1	T	18:20	X																									
LCSD 280-431131/4	1	T	18:20	X																									
MB 280-431131/5	1	T	18:20	X																									
280-114332-7	1	T	18:20	X																									
280-114332-7 DU	1	T	18:20	X																									
280-114332-7 MS	1	T	18:20	X																									
280-114332-7 MSD	1	T	18:20	X																									
ZZZZZZ			18:20																										
280-114332-4	1	T	18:20	X																									
280-114332-5	1	T	18:20	X																									
280-114332-8	1	T	18:20	X																									
CCV 280-431131/14	1		18:20	X																									
CCB 280-431131/15	1		18:20	X																									
ZZZZZZ			18:20																										
ZZZZZZ			21:01																										
ZZZZZZ			21:01																										
ZZZZZZ			21:01																										
CCV 280-431131/20	1		21:01	X																									
CCB 280-431131/21	1		21:01	X																									

Prep Types: \_\_\_\_\_  
 T = Total/NA



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430175 Batch Start Date: 09/19/18 10:32 Batch Analyst: Weigand, Adam WBatch Method: SM 4500 S2 F Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	BuretStart1	BuretStop1	IodineAmount	TitrantVolume1	InitialAmount	FinalAmount
MB 280-430175/1		SM 4500 S2 F		0.00 mL	5.0 mL	5 mL	5 mL	200 mL	200 mL
LCS 280-430175/2		SM 4500 S2 F		5.0 mL	11.10 mL	20 mL	6.1 mL	200 mL	200 mL
280-114332-C-7	AFDV-405	SM 4500 S2 F	T	11.10 mL	16.10 mL	5 mL	5 mL	200 mL	200 mL
280-114332-C-7 MS	AFDV-405	SM 4500 S2 F	T	16.10 mL	22.20 mL	20 mL	6.1 mL	200 mL	200 mL
280-114332-C-7 MSD	AFDV-405	SM 4500 S2 F	T	22.20 mL	28.20 mL	20 mL	6 mL	200 mL	200 mL
280-114332-C-8	AFDV-406	SM 4500 S2 F	T	28.20 mL	33.20 mL	5 mL	5 mL	200 mL	200 mL
280-114332-C-4	AFDV-414	SM 4500 S2 F	T	33.20 mL	38.20 mL	5 mL	5 mL	200 mL	200 mL
280-114332-C-5	AFDV-415	SM 4500 S2 F	T	38.20 mL	43.20 mL	5 mL	5 mL	200 mL	200 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	SFD CAL INT 01544	AnalysisComment				
MB 280-430175/1		SM 4500 S2 F							
LCS 280-430175/2		SM 4500 S2 F		5 mL					
280-114332-C-7	AFDV-405	SM 4500 S2 F	T		4mL HCL Sol added				
280-114332-C-7 MS	AFDV-405	SM 4500 S2 F	T	5 mL	4mL HCL Sol added				
280-114332-C-7 MSD	AFDV-405	SM 4500 S2 F	T	5 mL	4mL HCL Sol added				
280-114332-C-8	AFDV-406	SM 4500 S2 F	T		4mL HCL Sol added				
280-114332-C-4	AFDV-414	SM 4500 S2 F	T		4mL HCL Sol added				
280-114332-C-5	AFDV-415	SM 4500 S2 F	T		4mL HCL Sol added				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM 4500 S2 F

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430175 Batch Start Date: 09/19/18 10:32 Batch Analyst: Weigand, Adam WBatch Method: SM 4500 S2 F Batch End Date: \_\_\_\_\_

Batch Notes	
Batch Comment	AW training EC
Hydrochloric Acid ID	HCL Sol_00160
Iodine ID	Iod_00205
Normality of Iodine Solution	0.0250 N
Sodium Thiosulfate ID	Na Thio_00135
Nominal Amount Used	200 mL
Pipette/Syringe/Dispenser ID	AZ1000, BMF5000
Starch Reagent ID	Starch Ind_00049
Normality of First Titrant	0.0250 N

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 428351 Batch Start Date: 09/01/18 11:34 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00217	IC Cal low 00396	IC CL ICV 00014	IC ICV 5 00207
STD 280-428351/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-428351/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-428351/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-428351/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-428351/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-428351/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		
ICV 280-428351/8		300.0		5 mL	5 mL			0.4 mL	0.4 mL
ICB 280-428351/9		300.0		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD 280-428351/2 IC		300.0							
STD 280-428351/3 IC		300.0							
STD 280-428351/4 IC		300.0							
STD 280-428351/5 IC		300.0							
STD 280-428351/6 IC		300.0							
STD 280-428351/7 IC		300.0							
ICV 280-428351/8		300.0		0.4 mL					
ICB 280-428351/9		300.0							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 428351 Batch Start Date: 09/01/18 11:34 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics, 1000d, ic100
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 428352 Batch Start Date: 09/01/18 11:34 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00217	IC Cal low 00396		
STD 280-428352/2 IC		300.0		5 mL	5 mL	0.02 mL	0.02 mL		
STD 280-428352/3 IC		300.0		5 mL	5 mL	0.05 mL	0.05 mL		
STD 280-428352/4 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD 280-428352/5 IC		300.0		5 mL	5 mL	1.2 mL	0.4 mL		
STD 280-428352/6 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD 280-428352/7 IC		300.0		5 mL	5 mL	4 mL	1 mL		

Batch Notes	
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics, 1000d, ic100
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 429688 Batch Start Date: 09/14/18 09:26 Batch Analyst: Moser, Angela RBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00219	IC Cal low 00399	IC LCS 01342	ICMS/MSD WEEK 00553
CCV 280-429688/1		300.0		5 mL	5 mL			5 mL	
CCB 280-429688/2		300.0		5 mL	5 mL				
MRL 280-429688/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-429688/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-429688/5		300.0		5 mL	5 mL			5 mL	
MB 280-429688/6		300.0		5 mL	5 mL				
280-114332-B-7	AFDV-405	300.0	T	5 mL	5 mL				
280-114332-B-7 DU	AFDV-405	300.0	T	5 mL	5 mL				
280-114332-B-7 MS	AFDV-405	300.0	T	5 mL	5 mL				0.05 mL
280-114332-B-7 MSD	AFDV-405	300.0	T	5 mL	5 mL				0.05 mL
280-114332-B-4	AFDV-414	300.0	T	5 mL	5 mL				
280-114332-B-5	AFDV-415	300.0	T	5 mL	5 mL				
280-114332-B-8	AFDV-406	300.0	T	5 mL	5 mL				
CCV 280-429688/17		300.0		5 mL	5 mL			5 mL	
CCB 280-429688/18		300.0		5 mL	5 mL				

Batch Notes	
Batch Comment	TP training AM
Pipette/Syringe/Dispenser ID	5000ics, wcl000-d, icl00
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 1



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 429689 Batch Start Date: 09/14/18 09:26 Batch Analyst: Moser, Angela RBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00219	IC Cal low 00399	IC LCS 01342	ICMS/MSD WEEK 00553
CCV 280-429689/1		300.0		5 mL	5 mL			5 mL	
CCB 280-429689/2		300.0		5 mL	5 mL				
MRL 280-429689/3		300.0		5 mL	5 mL	0.05 mL	0.02 mL		
LCS 280-429689/4		300.0		5 mL	5 mL			5 mL	
LCSD 280-429689/5		300.0		5 mL	5 mL			5 mL	
MB 280-429689/6		300.0		5 mL	5 mL				
280-114332-B-7	AFDV-405	300.0	T	5 mL	5 mL				
280-114332-B-7 DU	AFDV-405	300.0	T	5 mL	5 mL				
280-114332-B-7 MS	AFDV-405	300.0	T	5 mL	5 mL				0.05 mL
280-114332-B-7 MSD	AFDV-405	300.0	T	5 mL	5 mL				0.05 mL
280-114332-B-4	AFDV-414	300.0	T	5 mL	5 mL				
280-114332-B-5	AFDV-415	300.0	T	5 mL	5 mL				
280-114332-B-8	AFDV-406	300.0	T	5 mL	5 mL				
CCV 280-429689/17		300.0		5 mL	5 mL			5 mL	
CCB 280-429689/18		300.0		5 mL	5 mL				

Batch Notes	
Batch Comment	TP training AM
Pipette/Syringe/Dispenser ID	5000ics, wcl000-d, ic100
Regeneration Solution ID	171211301014
Sufficient Volume for Batch QC	yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 1



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430832 Batch Start Date: 09/21/18 16:06 Batch Analyst: Loux, Lauren PBatch Method: 9060 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	TOC ICV Std 00035	TOC LCS Std 00041			
ICV 280-430832/1		9060		50 mL	1 mL				
LCS 280-430832/3		9060		200 mL		5 mL			
CCV 280-430832/15		9060		200 mL		5 mL			
280-114332-A-7 MS	AFDV-405	9060	T	50 mL		1.25 mL			
280-114332-A-7 MSD	AFDV-405	9060	T	50 mL		1.25 mL			
CCV 280-430832/27		9060		200 mL		5 mL			
LCS 280-430832/34		9060		200 mL		5 mL			
CCV 280-430832/39		9060		200 mL		5 mL			
CCV 280-430832/51		9060		200 mL		5 mL			

Batch Notes	
Acid ID	H2SO4_00188 2%H2SO4_00308
Combustion Catalyst ID	17007D-01
Pipette/Syringe/Dispenser ID	5000LL, 1000LL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430833 Batch Start Date: 09/21/18 16:06 Batch Analyst: Loux, Lauren PBatch Method: 9060 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	TOC LCS Std 00041				
LCS 280-430833/3		9060		200 mL	5 mL				
280-114332-A-7 MS	AFDV-405	9060	T	50 mL	1.25 mL				
280-114332-A-7 MSD	AFDV-405	9060	T	50 mL	1.25 mL				
LCS 280-430833/34		9060		200 mL	5 mL				

Batch Notes	
Acid ID	H2SO4_00188 2%H2SO4_00188
Combustion Catalyst ID	17007D-01
Pipette/Syringe/Dispenser ID	5000LL, 1000LL

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430188 Batch Start Date: 09/18/18 13:24 Batch Analyst: Barker, Scott GBatch Method: SM 2320B Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	CalcMsg	Alk daily lcs 00767				
CCV 280-430188/67		SM 2320B		InitialAmount is blank	10 mL				
CCB 280-430188/68		SM 2320B		InitialAmount is blank					
LCS 280-430188/69		SM 2320B		InitialAmount is blank	10 mL				
MB 280-430188/70		SM 2320B		InitialAmount is blank					
280-114332-B-4	AFDV-414	SM 2320B	T	InitialAmount is blank					
280-114332-B-4 DU	AFDV-414	SM 2320B	T	InitialAmount is blank					
280-114332-B-5	AFDV-415	SM 2320B	T	InitialAmount is blank					
280-114332-B-7	AFDV-405	SM 2320B	T	InitialAmount is blank					
280-114332-B-8	AFDV-406	SM 2320B	T	InitialAmount is blank					
CCV 280-430188/81		SM 2320B		InitialAmount is blank	10 mL				
CCB 280-430188/82		SM 2320B		InitialAmount is blank					

Batch Notes	
Acid ID	0.02NH2SO4_00247
Batch Comment	SGB trained by AD
pH Buffer 1 ID	pH2.0buffer_00070
pH Buffer 2 ID	pH4.0buffer_00170
pH Buffer 3 ID	pH7.0buffer_00246
pH Buffer 4 ID	pH10.0buffer_00134
pH Buffer 5 ID	pH12.0buffer_00138
pH Buffer 6 ID	pH7.0buffer_00245
Nominal Amount Used	10 mL
Pipette/Syringe/Dispenser ID	5000 ELJ
Probe ID	PCE 86 pH 1105 sep14
Normality of First Titrant	0.02 N

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 430188 Batch Start Date: 09/18/18 13:24 Batch Analyst: Barker, Scott GBatch Method: SM 2320B Batch End Date: \_\_\_\_\_

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 428014 Batch Start Date: 08/29/18 18:27 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	FE Cal INT 00503		
IC 280-428014/29		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank			
IC 280-428014/30		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	0.2 mL		
IC 280-428014/31		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	0.5 mL		
IC 280-428014/32		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
IC 280-428014/33		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	2 mL		
IC 280-428014/34		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	3 mL		

Batch Notes	
Batch Comment	IU training RK

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 431131 Batch Start Date: 09/26/18 18:19 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	FE Cal INT 00507	FE ICV INT 00507	
ICV 280-431131/1		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		1 mL	
ICB 280-431131/2		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank			
LCS 280-431131/3		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		2 mL	
LCSD 280-431131/4		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank		2 mL	
MB 280-431131/5		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank			
280-114332-B-7	AFDV-405	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-114332-B-7 DU	AFDV-405	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-114332-B-7 MS	AFDV-405	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-114332-B-7 MSD	AFDV-405	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-114332-B-4	AFDV-414	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-114332-B-5	AFDV-415	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-114332-B-8	AFDV-406	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
CCV 280-431131/14		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
CCB 280-431131/15		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			
280-114332-B-7	AFDV-405	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-114332-B-7 DU	AFDV-405	SM3500_FE_D	T	25 mL	25 mL	Color Resp. is Blank			
280-114332-B-7 MS	AFDV-405	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
280-114332-B-7 MSD	AFDV-405	SM3500_FE_D	T	100 mL	100 mL	Color Resp. is Blank		2 mL	
CCV 280-431131/20		SM3500_FE_D		100 mL	100 mL	Color Resp. is Blank	1 mL		
CCB 280-431131/21		SM3500_FE_D		25 mL	25 mL	Color Resp. is Blank			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-114332-1

SDG No.: \_\_\_\_\_

Batch Number: 431131 Batch Start Date: 09/26/18 18:19 Batch Analyst: Uge, Ikem EBatch Method: SM3500\_FE\_D Batch End Date: \_\_\_\_\_

Batch Notes	
Batch Comment	IU training JR

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

SM3500\_FE\_D

Page 2 of 2



# Shipping and Receiving Documents



TestAmerica

**THE LEADER IN ENVIRONMENTAL TESTING**

<b>Client Information</b>						Sample: Jack Graham Lab PM: Ide, Jamie N Phone: 414-378-0331 E-Mail: jamie.ide@testamericainc.com							Carrier Tracking No(s):  		COC No: 280-79162-25922.2 Page: Page 2 of 5										
Company: CH2M Hill, Inc.						<b>Analysis Requested</b>  											Job #:								
Address: 2020 SW 4th Ave Suite 300						Due Date Requested:						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)  Other:													
City: Portland						TAT Requested (days):																			
State, Zip: OR, 97201																									
Project Name: THAN Davenport, IA - June 2017 GW						SSOW#:																			
Site:						PO #: 131003606																			
Email: shannon.olson@ch2m.com						WO #: 703539																			
Project Name: THAN Davenport, IA - June 2017 GW						Project #: 28013442																			
Site:						SSOW#:																			
Sample Identification						Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Total Number of Samples															
AFDV-411						9/13/18	1340	G	Water	X															
AFDV-412						9/13/18	1335	G	Water	X															
AFDV-413						9/13/18	1340	G	Water	X															
AFDV-414						9/13/18	1500	G	Water	X	X	X	X	X	X										
AFDV-415						9/13/18	1430	G	Water	X	X	X	X	X	X										
AFDV-418						9/13/18	1535	G	Water	X															
									Water																
									Water																
									Water																
									Water																
									Water																
									Water																
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<b>Sample Disposal</b> (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																			
Deliverable Requested: I, II, III, IV, Other (specify)						Special Instructions/QC Requirements:																			
Empty Kit Relinquished by:						Date:	Time:			Method of Shipment:															
Relinquished by: Jackson Graham						Date/Time: 9/13/18 1600	Company: Jacobs			Received by:							Date/Time: 9/13/18 0900	Company: TADEN							
Relinquished by:						Date/Time:	Company:			Received by:							Date/Time:	Company:							
Relinquished by:						Date/Time:	Company:			Received by:							Date/Time:	Company:							
Custody Seals Intact: Δ Yes Δ No						Custody Seal No.:						Cooler Temperature(s) °C and Other Remarks: 3.6 to 0.5, 0.1 + 0.5 inches JAC													

Page 306 of 308

09/30/2018



# TestAmerica Denver

4955 Yarrow Street  
Arvada, CO 80002  
Phone (303) 736-0100 Fax (303) 431-7171

## Chain of Custody Record

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

<b>Client Information</b> Client Contact: Ms. Shannon Olson Company: CH2M Hill, Inc. Address: 2020 SW 4th Ave Suite 300 City: Portland State/Zip: OR, 97201 Phone: 503-736-4111 (Tel) 503-736-2063 (Fax) Email: shannon.olson@ch2m.com Project Name: THIAN Davenport, IA - June 2017 GW Site:		Sampler: <u>Sack Graham</u> Phone: <u>414-378-6331</u> Lab PM: Ide, Jamie N E-Mail: jamie.ide@testamericainc.com		Carrier Tracking No(s): COC No: 280-79162-25922.3 Page: 3 of 5 Job #:	
Due Date Requested: TAT Requested (days):		<b>Analysis Requested</b> 8209B - VOCs - Client Specific List 9060 - TOC (Quat) 2320B, 306.0, 200, 300, 48HR, 3500, FE_D SM4500_S2_F - Total Sulfide RSK_175 - Dissolved Gases (MEE)			
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)		Other:			
<b>Sample Identification</b> Sample Date Sample Time Sample Type (C=comp, G=grab) Matrix (W=water, S=solid, O=soil, BT=Tissue, AC=Air)		Special Instructions/Note:			
AFDV-405 AFDV-406 AFDV-417		9/13/18 1100 1110 1530		G G G Water Water Water Water Water Water Water Water	
MS/MSD		280-114332 Chain of Custody			
<b>Possible Hazard Identification</b> <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		<b>Sample Disposal</b> (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:			
Empty Kit Relinquished by: <u>JACKSON GRAHAM</u>		Date: 9/13/18 1600		Method of Shipment:	
Relinquished by: <u>JACKSON GRAHAM</u>		Date/Time: 9/13/18 1600		Received by: <u>[Signature]</u>	
Relinquished by:		Date/Time:		Received by:	
Relinquished by:		Date/Time:		Received by:	
Custody Seals Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.6, 0.1 to 0.5 marked Jole	



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-114332-1

**Login Number: 114332**  
**List Number: 1**  
**Creator: Quint, Jessica A**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	Refer to Job Narrative for details.
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## ANALYTICAL REPORT

Job Number: 280-117849-1

Job Description: THAN Davenport, IA - Groundwater

For:  
CH2M Hill, Inc.  
2020 SW 4th Ave  
Suite 300  
Portland, OR 97201  
Attention: Ms. Shannon Olson



Approved for release.  
Kayse 1 Zalmi  
Project Manager I  
12/26/2018 12:26 PM

---

Kayse 1 Zalmi, Project Manager I  
5755 8th Street East, Tacoma, WA, 98424  
(253)922-2310  
kayse.zalmi@testamericainc.com  
12/26/2018

The test results in this report relate only to the samples in this report and meet all requirements of NELAP, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

**TestAmerica Laboratories, Inc.**

TestAmerica Denver 4955 Yarrow Street, Arvada, CO 80002  
Tel (303) 736-0100 Fax (303) 431-7171 [www.testamericainc.com](http://www.testamericainc.com)





# Table of Contents

Cover Title Page . . . . .	1
Data Summaries . . . . .	4
Definitions . . . . .	4
Case Narrative . . . . .	5
Detection Summary . . . . .	6
Client Sample Results . . . . .	7
Default Detection Limits . . . . .	8
QC Sample Results . . . . .	9
QC Association . . . . .	11
Chronicle . . . . .	12
Certification Summary . . . . .	13
Method Summary . . . . .	14
Sample Summary . . . . .	15
Reagent Traceability . . . . .	16
Inorganic Sample Data . . . . .	17
General Chemistry Data . . . . .	17
Gen Chem Cover Page . . . . .	18
Gen Chem Sample Data . . . . .	19
Gen Chem QC Data . . . . .	23
Gen Chem ICV/CCV . . . . .	23
Gen Chem Blanks . . . . .	25
Gen Chem MS/MSD/PDS . . . . .	26
Gen Chem Duplicates . . . . .	28
Gen Chem LCS/LCSD . . . . .	29
Gen Chem MDL . . . . .	32
Gen Chem Analysis Run Log . . . . .	34



# Table of Contents

Gen Chem Prep Data .....	37
Shipping and Receiving Documents .....	41
Client Chain of Custody .....	42
Sample Receipt Checklist .....	43



# Definitions/Glossary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

## Qualifiers

### General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



**CASE NARRATIVE**  
**Client: CH2M Hill, Inc.**  
**Project: THAN Davenport, IA - Groundwater**  
**Report Number: 280-117849-1**

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) resulting from a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes within the calibration range of the instrument or that reduces the interferences thereby enabling the quantification of target analytes.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

**RECEIPT**

The samples were received on 12/06/2018; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.4 C.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

**ANIONS**

**Samples AFDV-501 (280-117849-1), AFDV-502 (280-117849-2), AFDV-503 (280-117849-3) and AFDV-504 (280-117849-4) were analyzed for anions in accordance with EPA Method 300.0.** The samples were analyzed on 12/19/2018 and 12/20/2018.

Chloride was detected in method blank MB 280-441849/6 at a level that was above the method detection limit but below half the reporting limit (1/2 RL); therefore, the data have been reported.

Samples AFDV-501 (280-117849-1)[5X] and AFDV-502 (280-117849-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



## Detection Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

### Client Sample ID: AFDV-501

### Lab Sample ID: 280-117849-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	430	B	15	1.3	mg/L	5		300.0	Total/NA

### Client Sample ID: AFDV-502

### Lab Sample ID: 280-117849-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	480	B	15	1.3	mg/L	5		300.0	Total/NA

### Client Sample ID: AFDV-503

### Lab Sample ID: 280-117849-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	0.44	J B	3.0	0.25	mg/L	1		300.0	Total/NA

### Client Sample ID: AFDV-504

### Lab Sample ID: 280-117849-4

No Detections.



# Client Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

## Client Sample ID: AFDV-501

Date Collected: 12/05/18 13:40

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-1

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	430	B	15	1.3	mg/L	—		12/19/18 22:22	5

## Client Sample ID: AFDV-502

Date Collected: 12/05/18 13:41

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-2

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480	B	15	1.3	mg/L	—		12/20/18 01:17	5

## Client Sample ID: AFDV-503

Date Collected: 12/05/18 13:55

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-3

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.44	J B	3.0	0.25	mg/L	—		12/20/18 01:52	1

## Client Sample ID: AFDV-504

Date Collected: 12/05/18 12:20

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-4

Matrix: Water

### General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	0.25	mg/L	—		12/20/18 02:27	1



## Default Detection Limits

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

### General Chemistry

Analyte	RL	MDL	Units	Method
Chloride	3.0	0.25	mg/L	300.0



# QC Sample Results

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

## Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 280-441849/6

Matrix: Water

Analysis Batch: 441849

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	0.437	J	3.0	0.25	mg/L			12/19/18 13:35	1

Lab Sample ID: LCS 280-441849/4

Matrix: Water

Analysis Batch: 441849

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.6		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-441849/5

Matrix: Water

Analysis Batch: 441849

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	98.6		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-441849/3

Matrix: Water

Analysis Batch: 441849

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2.50	2.51	J	mg/L		100	50 - 150

Lab Sample ID: 280-117849-1 MS

Matrix: Water

Analysis Batch: 441849

Client Sample ID: AFDV-501

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	430	B	125	561		mg/L		106	80 - 120

Lab Sample ID: 280-117849-1 MSD

Matrix: Water

Analysis Batch: 441849

Client Sample ID: AFDV-501

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	430	B	125	570		mg/L		113	80 - 120	2	20

Lab Sample ID: 280-117849-1 DU

Matrix: Water

Analysis Batch: 441849

Client Sample ID: AFDV-501

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	430	B	391		mg/L		9	15

Lab Sample ID: 280-117849-1 DU

Matrix: Water

Analysis Batch: 441849

Client Sample ID: AFDV-501

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	400	F1 B	402		mg/L		0	15

TestAmerica Denver



## QC Sample Results

Client: CH2M Hill, Inc.

Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1



## QC Association Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

### General Chemistry

#### Analysis Batch: 441849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-117849-1	AFDV-501	Total/NA	Water	300.0	
280-117849-2	AFDV-502	Total/NA	Water	300.0	
280-117849-3	AFDV-503	Total/NA	Water	300.0	
280-117849-4	AFDV-504	Total/NA	Water	300.0	
MB 280-441849/6	Method Blank	Total/NA	Water	300.0	
LCS 280-441849/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-441849/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-441849/3	Lab Control Sample	Total/NA	Water	300.0	
280-117849-1 MS	AFDV-501	Total/NA	Water	300.0	
280-117849-1 MSD	AFDV-501	Total/NA	Water	300.0	
280-117849-1 DU	AFDV-501	Total/NA	Water	300.0	
280-117849-1 DU	AFDV-501	Total/NA	Water	300.0	



# Lab Chronicle

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

## Client Sample ID: AFDV-501

Date Collected: 12/05/18 13:40

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	5 mL	5 mL	441849	12/19/18 22:22	A1D	TAL DEN

## Client Sample ID: AFDV-502

Date Collected: 12/05/18 13:41

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	5 mL	5 mL	441849	12/20/18 01:17	A1D	TAL DEN

## Client Sample ID: AFDV-503

Date Collected: 12/05/18 13:55

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	441849	12/20/18 01:52	A1D	TAL DEN

## Client Sample ID: AFDV-504

Date Collected: 12/05/18 12:20

Date Received: 12/06/18 08:45

## Lab Sample ID: 280-117849-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	441849	12/20/18 02:27	A1D	TAL DEN

### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



## Accreditation/Certification Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

### Laboratory: TestAmerica Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Florida	NELAP	4	E87667	06-30-19

The following analytes are included in this report, but are not accredited/certified under this accreditation/certification:

Analysis Method	Prep Method	Matrix	Analyte	
300.0		Water	Chloride	
Iowa	State Program	7	370	12-01-18 *
Oregon	NELAP	10	4025	01-08-19

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Denver



## Method Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

---

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN

---

**Protocol References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100



## Sample Summary

Client: CH2M Hill, Inc.  
Project/Site: THAN Davenport, IA - Groundwater

TestAmerica Job ID: 280-117849-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-117849-1	AFDV-501	Water	12/05/18 13:40	12/06/18 08:45
280-117849-2	AFDV-502	Water	12/05/18 13:41	12/06/18 08:45
280-117849-3	AFDV-503	Water	12/05/18 13:55	12/06/18 08:45
280-117849-4	AFDV-504	Water	12/05/18 12:20	12/06/18 08:45



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
<b>IC CAL cl/so4_00230</b>	11/24/18	11/17/18	Di Water, Lot na	100 mL	IC CL cal_00055	25 mL	Chloride	250 mg/L
.IC CL cal_00055	11/30/19		SPEX CertiPrep, Lot 4-101CL-2X		IC sulfatecal_00053	25 mL	Sulfate	250 mg/L
.IC sulfatecal_00053	08/30/19		SPEX CertiPrep, Lot 4-131SO4-2X		(Purchased Reagent)		Chloride	1000 mg/L
					(Purchased Reagent)		Sulfate	1000 mg/L
<b>IC CAL cl/so4_00234</b>	12/22/18	12/15/18	Di Water, Lot na	100 mL	IC CL cal_00055	25 mL	Chloride	250 mg/L
.IC CL cal_00055	11/30/19		SPEX CertiPrep, Lot 4-101CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
<b>IC Cal low_00415</b>	11/22/18	11/15/18	Di Water, Lot NA	100 mL	IC Br cal_00015	5 mL	Bromide	50 mg/L
.IC Br cal_00015	01/31/19		Ricca, Lot 4707D55		IC FL cal_00013	5 mL	Fluoride	50 mg/L
.IC FL cal_00013	10/31/19		Ricca, Lot 4805C89		(Purchased Reagent)		Bromide	1000 mg/L
					(Purchased Reagent)		Fluoride	1000 mg/L
<b>IC CL ICV 00014</b>	01/31/19		ERA, Lot 190117		(Purchased Reagent)		Chloride	1000 mg/L
<b>IC LCS 01435</b>	12/20/18	12/19/18	Di Water, Lot 27	200 mL	IC CL cal_00055	20 mL	Chloride	100 mg/L
.IC CL cal_00055	11/30/19		SPEX CertiPrep, Lot 4-101CL-2X		(Purchased Reagent)		Chloride	1000 mg/L
<b>ICMS/MSD WEEK 00570</b>	12/25/18	12/18/18	Di Water, Lot NA	10 mL	IC SPK 6 ANIO 00021	5 mL	Chloride	2499.92 mg/L
.IC SPK 6 ANIO 00021	10/01/19	10/01/18	Di Water, Lot NA	1000 mL	IC MS/MSD CL 00002	8.2424 g	Chloride	4999.84 mg/L
..IC MS/MSD CL 00002	01/13/21		FISHER, Lot 091363		(Purchased Reagent)		Chloride	0.6066 g/g



# GENERAL CHEMISTRY



COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job Number: 280-117849-1

SDG No.: \_\_\_\_\_

Project: THAN Davenport, IA - Groundwater

Client Sample ID

AFDV-501

AFDV-502

AFDV-503

AFDV-504

Lab Sample ID

280-117849-1

280-117849-2

280-117849-3

280-117849-4

Comments:

\_\_\_\_\_



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-501

Lab Sample ID: 280-117849-1

Lab Name: TestAmerica Denver

Job No.: 280-117849-1

SDG ID.:

Matrix: Water

Date Sampled: 12/05/2018 13:40

Reporting Basis: WET

Date Received: 12/06/2018 08:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	430	15	1.3	mg/L		B	5	300.0



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-502

Lab Sample ID: 280-117849-2

Lab Name: TestAmerica Denver

Job No.: 280-117849-1

SDG ID.:

Matrix: Water

Date Sampled: 12/05/2018 13:41

Reporting Basis: WET

Date Received: 12/06/2018 08:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	480	15	1.3	mg/L		B	5	300.0



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-503

Lab Sample ID: 280-117849-3

Lab Name: TestAmerica Denver

Job No.: 280-117849-1

SDG ID.:

Matrix: Water

Date Sampled: 12/05/2018 13:55

Reporting Basis: WET

Date Received: 12/06/2018 08:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	0.44	3.0	0.25	mg/L	J	B	1	300.0



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: AFDV-504

Lab Sample ID: 280-117849-4

Lab Name: TestAmerica Denver

Job No.: 280-117849-1

SDG ID.:

Matrix: Water

Date Sampled: 12/05/2018 12:20

Reporting Basis: WET

Date Received: 12/06/2018 08:45

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	ND	3.0	0.25	mg/L			1	300.0



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1  
SDG No.: \_\_\_\_\_  
Analyst: TLP Batch Start Date: 11/20/2018  
Reporting Units: mg/L Analytical Batch No.: 438340

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	19:09	Chloride	79.4	80.0	99	90-110		IC CL ICV_00014
9	ICB	19:42	Chloride	0.431				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1  
 SDG No.: \_\_\_\_\_  
 Analyst: AlD Batch Start Date: 12/19/2018  
 Reporting Units: mg/L Analytical Batch No.: 441849

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	CCV	12:08	Chloride	98.0	100	98	90-110		IC LCS_01435
2	CCB	12:26	Chloride	0.437				J	
17	CCV	21:12	Chloride	98.9	100	99	90-110		IC LCS_01435
18	CCB	21:29	Chloride	0.436				J	
29	CCV	00:42	Chloride	99.1	100	99	90-110		IC LCS_01435
30	CCB	00:59	Chloride	0.436				J	
41	CCV	04:11	Chloride	99.5	100	99	90-110		IC LCS_01435
42	CCB	04:29	Chloride	0.436				J	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



3-IN  
METHOD BLANK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 441849 Date: 12/19/2018 13:35							
300.0	MB 280-441849/6	Chloride	0.437	J	mg/L	3.0	1



5-IN  
MATRIX SPIKE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 441849 Date: 12/19/2018 22:57											
300.0	280-117849-1	Chloride	430		mg/L						B
300.0	280-117849-1	Chloride	561		mg/L	125	106	80-120			
MS											

Calculations are performed before rounding to avoid round-off errors in calculated results.



5-IN  
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 441849 Date: 12/19/2018 23:14											
300.0	280-117849-1	Chloride	570		mg/L	125	113	80-120	2	20	
MSD											

Calculations are performed before rounding to avoid round-off errors in calculated results.



6-IN  
DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Client Sample ID	Lab Sample ID	Analyte	Result	Unit	RPD	RPD Limit	Qual
Batch ID: 441849 Date: 12/19/2018 22:39								
300.0	AFDV-501	280-117849-1	Chloride	430	mg/L			
300.0	AFDV-501	280-117849-1 DU	Chloride	391	mg/L	9	15	
Batch ID: 441849 Date: 12/19/2018 23:49								
300.0	AFDV-501	280-117849-1	Chloride	400	mg/L			
300.0	AFDV-501	280-117849-1 DU	Chloride	402	mg/L	0	15	

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
LAB CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 441849 Date: 12/19/2018 13:01											
						LCS Source: IC LCS_01435					
300.0	LCS 280-441849/4	Chloride	98.6		mg/L	100	99	90-110	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
LAB CONTROL SAMPLE DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 441849 Date: 12/19/2018 13:18											
						LCSD Source: IC LCS_01435					
300.0	LCSD 280-441849/5	Chloride	98.6		mg/L	100	99	90-110	0	10	

Calculations are performed before rounding to avoid round-off errors in calculated results.



7A-IN  
METHOD REPORTING LIMIT CHECK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1  
SDG No.: \_\_\_\_\_  
Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 441849 Date: 12/19/2018 12:43											
						LCS Source: IC CAL cl/so4_00234					
300.0	MRL 280-441849/3	Chloride	2.51	J	mg/L	2.50	100	50-150			

Calculations are performed before rounding to avoid round-off errors in calculated results.



9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-117849-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom10  
Method: 300.0 MDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Chloride		3	0.254



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-117849-1  
SDG Number: \_\_\_\_\_  
Matrix: Water Instrument ID: WC\_IonChrom10  
Method: 300.0 XMDL Date: 08/01/2018 00:00

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Chloride		3	0.254



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: WC\_IonChrom10 Analysis Method: 300.0  
 Start Date: 11/20/2018 16:36 End Date: 11/21/2018 04:00

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -																									
RTC 280-438340/1			16:36																										
STD1 280-438340/2 IC	1		16:53	X																									
STD2 280-438340/3 IC	1		17:11	X																									
STD3 280-438340/4 IC	1		17:28	X																									
STD4 280-438340/5 IC	1		17:46	X																									
STD5 280-438340/6 IC	1		18:03	X																									
STD6 280-438340/7 IC	1		18:20	X																									
ICV 280-438340/8	1		19:09	X																									
ICB 280-438340/9	1		19:42	X																									
ZZZZZZ			20:00																										
ZZZZZZ			20:17																										
ZZZZZZ			20:35																										
ZZZZZZ			20:52																										
ZZZZZZ			22:27																										
ZZZZZZ			22:45																										
ZZZZZZ			23:02																										
ZZZZZZ			23:20																										
ZZZZZZ			23:37																										
ZZZZZZ			23:55																										
ZZZZZZ			00:12																										
ZZZZZZ			00:30																										
ZZZZZZ			00:47																										
ZZZZZZ			01:05																										
CCV 280-438340/24			01:22																										
CCB 280-438340/25			01:40																										
ZZZZZZ			01:57																										
ZZZZZZ			02:15																										
ZZZZZZ			02:32																										
ZZZZZZ			02:50																										
ZZZZZZ			03:07																										
ZZZZZZ			03:25																										
CCV 280-438340/32			03:42																										
CCB 280-438340/33			04:00																										

Prep Types: \_\_\_\_\_  
=



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver

Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom10

Analysis Method: 300.0

Start Date: 12/19/2018 12:08

End Date: 12/20/2018 05:39

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -																									
CCV 280-441849/1	1		12:08	X																									
CCB 280-441849/2	1		12:26	X																									
MRL 280-441849/3	1	T	12:43	X																									
LCS 280-441849/4	1	T	13:01	X																									
LCSD 280-441849/5	1	T	13:18	X																									
MB 280-441849/6	1	T	13:35	X																									
ZZZZZZ			18:17																										
ZZZZZZ			18:35																										
ZZZZZZ			18:52																										
ZZZZZZ			19:10																										
ZZZZZZ			19:27																										
ZZZZZZ			19:45																										
ZZZZZZ			20:02																										
ZZZZZZ			20:19																										
ZZZZZZ			20:37																										
ZZZZZZ			20:54																										
CCV 280-441849/17	1		21:12	X																									
CCB 280-441849/18	1		21:29	X																									
ZZZZZZ			21:47																										
ZZZZZZ			22:04																										
280-117849-1	5	T	22:22	X																									
280-117849-1 DU	5	T	22:39	X																									
280-117849-1 MS	5	T	22:57	X																									
280-117849-1 MSD	5	T	23:14	X																									
ZZZZZZ			23:32																										
280-117849-1 DU	100	T	23:49	X																									
ZZZZZZ			00:07																										
ZZZZZZ			00:24																										
CCV 280-441849/29	1		00:42	X																									
CCB 280-441849/30	1		00:59	X																									
280-117849-2	5	T	01:17	X																									
ZZZZZZ			01:34																										
280-117849-3	1	T	01:52	X																									
ZZZZZZ			02:09																										
280-117849-4	1	T	02:27	X																									
ZZZZZZ			02:44																										
ZZZZZZ			03:02																										
ZZZZZZ			03:19																										
ZZZZZZ			03:37																										
CCV 280-441849/41	1		04:11	X																									
CCB 280-441849/42	1		04:29	X																									



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Instrument ID: WC\_IonChrom10 Analysis Method: 300.0

Start Date: 12/19/2018 12:08 End Date: 12/20/2018 05:39

Lab Sample Id	D/F	T y p e	Time	Analytes																									
				C L -																									
ZZZZZZ			04:46																										
ZZZZZZ			05:04																										
CCV 280-441849/45			05:21																										
CCB 280-441849/46			05:39																										

Prep Types: \_\_\_\_\_

T = Total/NA



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Batch Number: 438340 Batch Start Date: 11/20/18 16:36 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00230	IC Cal low 00415	IC CL ICV 00014	IC ICV 5 00215
STD1 280-438340/2 IC		300.0		5 mL	5 mL	0.04 mL	0.04 mL		
STD2 280-438340/3 IC		300.0		5 mL	5 mL	0.1 mL	0.1 mL		
STD3 280-438340/4 IC		300.0		5 mL	5 mL	0.2 mL	0.2 mL		
STD4 280-438340/5 IC		300.0		5 mL	5 mL	2.4 mL	0.8 mL		
STD5 280-438340/6 IC		300.0		5 mL	5 mL	4.8 mL	1.6 mL		
STD6 280-438340/7 IC		300.0		5 mL	5 mL	8 mL	2 mL		
ICV 280-438340/8		300.0		5 mL	5 mL			0.8 mL	0.8 mL
ICB 280-438340/9		300.0		5 mL	5 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	IC SO4 ICV 00017					
STD1 280-438340/2 IC		300.0							
STD2 280-438340/3 IC		300.0							
STD3 280-438340/4 IC		300.0							
STD4 280-438340/5 IC		300.0							
STD5 280-438340/6 IC		300.0							
STD6 280-438340/7 IC		300.0							
ICV 280-438340/8		300.0		0.8 mL					
ICB 280-438340/9		300.0							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Batch Number: 438340 Batch Start Date: 11/20/18 16:36 Batch Analyst: Phan, Thu LBatch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Eluent 1 ID	m18082401
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics, 1000d, ic100
Regeneration Solution ID	m18072401
Sufficient Volume for Batch QC	yes

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Batch Number: 441849 Batch Start Date: 12/19/18 12:08 Batch Analyst: Duplin, Alysha 1Batch Method: 300.0 Batch End Date: \_\_\_\_\_

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	IC CAL cl/so4 00234	IC Cal low 00423	IC LCS 01435	ICMS/MSD WEEK 00570
CCV 280-441849/1		300.0		5 mL	5 mL			10 mL	
CCB 280-441849/2		300.0		5 mL	5 mL				
MRL 280-441849/3		300.0		5 mL	5 mL	0.1 mL	0.04 mL		
LCS 280-441849/4		300.0		5 mL	5 mL			10 mL	
LCSD 280-441849/5		300.0		5 mL	5 mL			10 mL	
MB 280-441849/6		300.0		5 mL	5 mL				
CCV 280-441849/17		300.0		5 mL	5 mL			5 mL	
CCB 280-441849/18		300.0		5 mL	5 mL				
280-117849-A-1	AFDV-501	300.0	T	5 mL	5 mL				
280-117849-A-1 DU	AFDV-501	300.0	T	5 mL	5 mL				
280-117849-A-1 MS	AFDV-501	300.0	T	5 mL	5 mL				0.05 mL
280-117849-A-1 MSD	AFDV-501	300.0	T	5 mL	5 mL				0.05 mL
280-117849-A-1	AFDV-501	300.0	T	5 mL	5 mL				
280-117849-A-1 DU	AFDV-501	300.0	T	5 mL	5 mL				
280-117849-A-1 MS	AFDV-501	300.0	T	5 mL	5 mL				0.05 mL
280-117849-A-1 MSD	AFDV-501	300.0	T	5 mL	5 mL				0.05 mL
CCV 280-441849/29		300.0		5 mL	5 mL			5 mL	
CCB 280-441849/30		300.0		5 mL	5 mL				
280-117849-A-2	AFDV-502	300.0	T	5 mL	5 mL				
280-117849-A-3	AFDV-503	300.0	T	5 mL	5 mL				
280-117849-A-4	AFDV-504	300.0	T	5 mL	5 mL				
CCV 280-441849/41		300.0		5 mL	5 mL			5 mL	
CCB 280-441849/42		300.0		5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0

Page 1 of 2



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-117849-1

SDG No.: \_\_\_\_\_

Batch Number: 441849 Batch Start Date: 12/19/18 12:08 Batch Analyst: Duplin, Alysha 1Batch Method: 300.0 Batch End Date: \_\_\_\_\_

Batch Notes	
Eluent 1 ID	M18082401
Filter ID	r7ma61819
Pipette/Syringe/Dispenser ID	5000ics wc1000-d ic100
Regeneration Solution ID	M18072401
Sufficient Volume for Batch QC	Yes

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300.0



# Shipping and Receiving Documents



## TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

[illegible]



## Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 280-117849-1

**Login Number: 117849**  
**List Number: 1**  
**Creator: Quint, Jessica A**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



## Appendix D

# Data Quality Evaluation



# Data Quality Evaluation for THAN Davenport Annual Monitoring Event

## Introduction

The objective of this data quality evaluation (DQE) memorandum is to assess the quality of analytical results for groundwater samples collected at monitoring wells associated with the site at 2040 West River Drive in Davenport, Iowa. Samples were collected by CH2M HILL Engineers, Inc. (CH2M) for T. H. Agriculture & Nutrition, L.L.C. (THAN); Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. (Harcros). Samples were collected by CH2M personnel during the following time periods: June 12 through June 14, July 10, July 12, September 12, and September 13, 2018. Guidance for preparing this DQE memorandum came from the *Quality Assurance Project Plan (QAPP)/Sampling and Analysis Plan, 2040 West River Drive, Davenport, Iowa* (CH2M, 2012); U.S. Environmental Protection Agency (EPA) *Contract Laboratory National Functional Guidelines (NFG) for Organic Data Review, June 2008*; *EPA NFG for Inorganic Data Review, January 2010*; and individual method requirements. The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability, and completeness (PARCC) as described in the QAPP.

This DQE memorandum is intended as a general data quality assessment designed to summarize data issues.

## Analytical Data

This DQE memorandum covers the acceptable groundwater samples collected from the stated sampling dates. The samples were reported as seven sample delivery groups (SDGs) listed as 280-110865, 280-110943, 280-111005, 280-111864, 280-111956, 280-114284 and 280-114332. Samples were collected and delivered to TestAmerica, Inc., in Arvada, Colorado. The samples were analyzed by one or more of the methods listed in Table 1.

**Table 1. Analytical Parameters**

*Data Quality Evaluation for THAN Davenport Annual Monitoring Event*

Parameter	Method	Laboratory
Volatile organic compounds (VOCs)	SW-846 5030B/8260B	TestAmerica-Arvada
Dissolved gases	RSK-175	TestAmerica-Arvada
Total organic carbon (TOC)	SW-846 9060	TestAmerica-Arvada
Alkalinity	SM 2320B	TestAmerica-Arvada
Chloride, Sulfate and Nitrate	EPA 300.0	TestAmerica-Arvada
Sulfide	SM 4500 S2-F	TestAmerica-Arvada
Ferrous Iron	SM 3500 FE-D	TestAmerica-Arvada

The SDGs were assessed by reviewing the following: (1) chain-of-custody documentation; (2) holding-time compliance; (3) temperature compliance; (4) method blanks and FB, EB and TB results, (5) laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) recoveries; (6) MS/MSD



recoveries; (7) surrogate spike recoveries; and (8) FD precision. Ten (10) percent of the data were also reviewed for initial and continuing calibration criteria, internal standard recoveries and other required quality control samples at the specified frequencies.

Data flags were assigned according to the NFGs. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there is only one final flag assigned. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.

The data flags are listed and defined as follows:

- J = Estimated. The analyte was below the stated reporting limit (RL), but greater than the method detection limit (MDL), or there is an analytical bias.
- U = Undetected. The analyte was analyzed for but not detected at a concentration equal to or greater than the laboratory RL.
- UB = Undetected due to blank contamination. The analyte was detected in the sample and in an associated calibration, method, equipment, field, or trip blank. The analyte concentration is potentially the result of contamination.
- UJ = Estimated. The analyte was not detected above the MDL; however, the MDL is approximate, and may or may not represent the actual limit of detection.
- R = Rejected. The analyte was rejected for project use due to a severe quality issue.

## Findings

The overall summaries of the data validation are contained in the following sections. Several samples required a dilution to meet calibration criteria for certain analytes. Only the results that met calibration criteria were reported.

### Holding Time and Preservation

All acceptance criteria were met with the following exceptions:

- The analytical holding time for ferrous iron was exceeded for all the samples. The results were qualified as estimated detected and non-detected results and flagged “J” and “UJ,” respectively, in the associated samples.
- The analytical holding time for VOCs was exceeded for the following samples collected in June 2018: AFDV-105 (MW-06), AFDV-110/AFDV-110DL (BW-02), AFDV-119/AFDV-119DL (BW-14), AFDV-120/AFDV-120DL (BW-14FD), AFDV-139 (BW-34), AFDV-141/AFDV-141DL (BW-37), and AFDV-142/AFDV-142DL (BW-37FD). Also, all the vials submitted for the VOC analysis contained headspace greater than 6 millimeters in diameter for samples AFDV-110 (BW-02), AFDV-119 (BW-14), AFDV-139 (BW-34), AFDV-141 (BW-37FD), and AFDV-142 (BW-37FD). Samples from the associated monitoring well locations were re-collected in July and September 2018 with the exception of MW-06, which was dry when re-sampling was attempted. As per the NFG, the non-detected MW-06 results from June 2018 were rejected for project use and qualified “R,” and the detected results were qualified as estimated and flagged “J.” For those locations with re-collected results, only the re-collected results are included in the project data summary tables.
- The analytical holding time for VOCs was exceeded for the following samples collected in June or September 2018: AFDV-102DL (MW-03), AFDV-135DL (BW-27), AFDV-136DL (BW-28), AFDV-137DL (BW-31), AFDV-145 (FB), AFDV-148 (TB), and AFDV-411 (BW-34). The holding time exceedances



resulted in results being qualified as estimated detected or estimated non-detected and flagged “J” or “UJ,” respectively, in the associated samples.

- The analytical holding time for dissolved gases collected in June 2018 was exceeded for samples AFDV-116/AFDV-116DL (BW-09), AFDV-119/AFDV-119DL (BW-14), AFDV-120/AFDV-120DL (BW-14FD), AFDV-131/AFDV-131DL (BW-26-65), AFDV-132/AFDV-132DL (BW-26-85), AFDV-133/AFDV-133DL (BW-26-85FD), and AFDV-134/AFDV-134DL (BW-26-395). Also, all of the vials submitted for the dissolved gas analysis contained headspace greater than 6 millimeters in diameter for samples AFDV-116DL (BW-09), AFDV-119DL (BW-14), AFDV-131/AFDV-131DL (BW-26-65), AFDV-132DL (BW-26-85), and AFDV-133DL (BW-26-85FD). All noted samples were re-collected in September 2018 at the corresponding locations. For those locations with re-collected results, only the re-collected results are included in the project data summary tables.

## Calibration

Initial and continuing calibration analyses were performed as required by the methods. All acceptance criteria were met in the 10 percent reviewed.

## Calibration Blanks

Calibration blanks were analyzed at the required frequency and were free of contamination in the 10 percent reviewed with the following exceptions:

- TOC and alkalinity were detected at concentrations less than the RL in five continuing calibration blanks associated with SDG 280-110865. All of the associated sample results were detected at concentrations greater than five times the blank concentration and were therefore not qualified.
- The initial calibration blank associated with SDG 280-114332 detected nitrate at a concentration less than the RL. All of the associated sample results were non-detect and were therefore not qualified.
- Ferrous iron was detected at concentrations less than the RL in both the initial calibration blank and continuing calibration blank associated with SDG 280-114332. The data in samples AFDV-405 (BW-18), AFDV-406 (BW-18FD), AFDV-414 (EB), and AFDV-415 (FB) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than five times the blank concentration.
- One continuing calibration blank associated with SDG 280-114332 detected alkalinity at a concentration less than the RL. The data in samples AFDV-414 (EB) and AFDV-415 (FB) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than five times the blank concentration. Sample concentrations detected at greater than five times the blank concentration were not qualified.
- Sulfate was detected at a concentration less than the RL in one continuing calibration blank associated with SDG 280-114332. The data in sample AFDV-414 (EB) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentration and non-detected results were not qualified.

## Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination with the following exceptions:



- Methane was detected at concentrations less than the RL in two method blanks associated with SDG 280-110865 and in one method blank associated with SDG 280-110943. The data in sample AFDV-125 (BW-21) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentration were not qualified.
- Two method blanks associated with SDG 280-110865 and one method blank associated with SDG 280-110943 detected TOC at concentrations less than the RL. The data in sample AFDV-144 (EB) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentrations were not qualified.
- Alkalinity was detected at concentrations less than the RL in three method blanks associated with SDG 280-110865 and one method blank associated with SDG 280-110943. The data in sample AFDV-144 (EB) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentration were not qualified.
- One method blank associated with SDGs 280-110943 and 280-114332 and two method blanks associated with SDG 280-111005 detected methylene chloride at concentrations less than the RL. The data in samples AFDV-102 (MW-03), AFDV-138 (BW-33), AFDV-153 (TB), and AFDV-154 (TB) and AFDV-411 (BW-34) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than 10 times the blank concentration. Sample results detected at concentrations greater than 10 times the blank concentrations or that were non-detect were not qualified.
- Chloride was detected at a concentration less than the RL in one method blank associated with SDG 280-111005. All of the associated sample results were detected at concentrations greater than five times the blank concentration and were therefore not qualified.
- One method blank associated with SDG 280-114332 detected acetone at a concentration less than the RL. The data in samples AFDV-405 (BW-18) and AFDV-406 (BW-18FD) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than 10 times the blank concentration. Sample results detected at concentrations greater than ten times the blank concentration or that were non-detect were not qualified.
- Sulfate was detected at a concentration less than the RL in one method blank associated with SDG 280-114332. The data in sample AFDV-414 (EB) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentration or that were non-detect were not qualified.
- One method blank associated with SDG 280-114332 detected ferrous iron at a concentration less than the RL. The data in samples AFDV-405 (BW-18), AFDV-406 (BW-18FD), AFDV-414 (EB), and AFDV-415 (FB) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than five times the blank concentration.

### Field Blanks

Two EBs (AFDV-144 AFDV-414), two FBs (AFDV-145 and AFDV-415) and 11 TBs (AFDV-146 through AFDV-151, AFDV-153, AFDV-154, AFDV-232, AFDV-417, and AFDV-418) were collected, analyzed, and were free of contamination with the following exceptions:



- Toluene was detected at a concentration less than the RL in both the FB and EB collected in June 2018. The data in samples AFDV-127 (BW-23-125) and AFDV-130 (BW-25) were qualified as not detected at the concentration measured and flagged “UB” because the detected sample concentrations were less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentrations or that were non-detect were not qualified.
- Both the FB and EB collected in June 2018 detected styrene at concentrations less than the RL. All of the associated sample concentrations were detected at concentrations greater than five times the blank concentrations or were non-detect and were therefore not qualified.
- Methane was detected at a concentration less than the RL in both the FB and EB collected in June 2018. The data in samples AFDV-101 (MW-01), AFDV-109 (BW-01), and AFDV-125 (BW-21) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentrations or that were non-detect were not qualified.
- The FB collected in June 2018 detected total xylenes at a concentration less than the RL. The data in sample AFDV-138 (BW-33) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentration or that were non-detect were not qualified.
- TOC was detected at a concentration less than the RL in the FB collected in June 2018. The data in samples AFDV-102 (MW-03), AFDV-109 (BW-01), and AFDV-127 (BW-23-125) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than five times the blank concentration. Sample results detected at concentrations greater than five times the blank concentration were not qualified.
- The FB collected in June 2018 detected nitrate and alkalinity at concentrations less than the RL. All of the associated sample results were detected at concentrations greater than five times the blank concentration or were non-detect and were therefore not qualified.
- Acetone was detected at a concentration less than the RL in the EB collected in June 2018. The data in samples AFDV-101 (MW-01), AFDV-102 (MW-03), AFDV-104 (MW-05), AFDV-109 (BW-01), AFDV-117 (BW-11), AFDV-118 (BW-13), AFDV-121 (BW-15), AFDV-127 (BW-23-125), AFDV-128 (BW-23-390), AFDV-130 (BW-25), and AFDV-138 (BW-33) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than 10 times the blank concentration. Sample results detected at concentrations greater than 10 times the blank concentration or that were non-detect were not qualified.
- Both the FB and EB collected in September 2018 detected ethylbenzene and total xylenes at concentrations less than the RL. All of the associated sample results were detected at concentrations greater than five times the blank concentrations or were non-detect and were therefore not qualified.
- Acetone was detected at concentrations less than the RL in three TBs associated with SDG 280-110943 and one TB associated with SDG 280-111956. The data in samples AFDV-101 (MW-01), AFDV-104 (MW-05), AFDV-109 (BW-01), AFDV-117 (BW-11), AFDV-121 (BW-15), AFDV-130 (BW-25), and AFDV-138 (BW-33) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentrations were less than ten times the blank concentration. Sample



results detected at concentrations greater than 10 times the blank concentrations or that were non-detect were not qualified.

- One TB associated with SDG 280-110943 detected methylene chloride at a concentration less than the RL. The data in sample AFDV-138 (BW-33) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than 10 times the blank concentration. Sample results detected at concentrations greater than 10 times the blank concentration or that were non-detect were not qualified.

### Laboratory Control Samples

LCS/LCSDs were analyzed as required, and all accuracy criteria were met.

### Matrix Spike

MS/MSDs were analyzed as required, and all accuracy and precision criteria were met with the following exceptions:

- The MS recovered 1,1-dichloroethane less than the lower control limit for sample AFDV-126 (BW-23-50), indicating a possible low bias. The data were qualified as an estimated detected result and flagged “J” in the parent sample.
- Ferrous iron was recovered less than the lower control limit in both the MS and MSD for samples AFDV-129 (BW-24-390) and AFDV-405 (BW-18). The data were qualified as estimated non-detected results and flagged “UJ” in the parent samples.
- The MS recovered ethene above the upper control limit and the MSD was recovered less than the lower control limit for sample AFDV-404 (BW-14FD). The relative percent difference (RPD) was also exceeded for ethene, ethane and methane for the same sample. The data were qualified as estimated detected results and flagged “J” in the parent sample.

### Surrogates

Surrogates were added in the laboratory as required and all acceptance criteria were met.

### Internal Standards

Internal standards were added in the laboratory as required and all acceptance criteria were met in the ten percent reviewed.

### Laboratory Duplicates

The RPD between the field sample and laboratory duplicates for the dissolved gas, anions, alkalinity and ferrous iron analysis were calculated to determine the precision of the results. The RPDs were generally within the established QC limits. The samples listed below exceeded the control limits. The results were qualified as estimated detected results and flagged “J” in the associated sample.

- Methane, ethene and ethane for sample AFDV-403 (BW-14)

### Column Differential

The RPD between the primary and confirmation columns for the dissolved gas analysis were calculated to determine the precision of the results. The RPDs were generally within the established QC limits of less than 40 percent in the 10 percent reviewed. The samples listed below exceeded the control limits. The results were qualified as estimated detected results and flagged “J” in the associated samples.

- Ethane for samples AFDV-108 (MW-13) and AFDV-129 (BW-24-390)



## Field Duplicates

The RPD between the field sample and FD were calculated to determine the precision of the results. The RPDs were generally within the established QC limits of less than 25 percent. The samples listed below exceeded the control limits. The associated results were qualified as estimated detected results and flagged “J” in the FD and parent sample.

- Methane and sulfide for samples AFDV-119/AFDV-120 (BW-14/BW-14FD)
- Sulfide for samples AFDV-132/AFDV-133 (BW-26-85/BW-26-85FD)
- Total xylenes for samples AFDV-228/AFDV-229 (BW-14/BW-14FD)
- Ethene and ethane for samples AFDV-408/AFDV-409 (BW-26-85/BW-26-85FD)

## Chain-of-Custody

Required procedures were followed, and the documents were free of errors with the following exceptions:

- All vials submitted for the VOC analysis contained headspace greater than 6 millimeters in diameter for samples AFDV-101 (MW-01), AFDV-104 (MW-05), AFDV-106 (MW-07), AFDV-107 (MW-08), AFDV-109 (BW-01), AFDV-111 (BW-03R), AFDV-113 (BW-05), AFDV-114 (BW-06), AFDV-115 (BW-06FD), AFDV-116 (BW-09), AFDV-117 (BW-11), AFDV-118 (BW-13), AFDV-121 (BW-15), AFDV-125 (BW-21), AFDV-128 (BW-23-390), AFDV-129 (BW-24-390), AFDV-130 (BW-25), AFDV-131 (BW-26-65), AFDV-133 (BW-26-85FD), AFDV-134 (BW-26-395), AFDV-136 (BW-28), AFDV-138 (BW-33), AFDV-140 (BW-35), AFDV-146 (TB), and AFDV-149 (TB). The data were qualified as estimated detected and non-detected results and flagged “J” and “UJ,” respectively, in the associated samples.
- All vials submitted for the dissolved gas analysis contained headspace greater than 6 millimeters in diameter for samples AFDV-102DL (MW-03), AFDV-121 (BW-15), and AFDV-130 (BW-25). The data were qualified as estimated detected and non-detected results and flagged “J” and “UJ,” respectively, in the associated samples.

## Overall Assessment

The goal of the overall assessment is to demonstrate that a sufficient number of representative samples were collected, and the resulting analytical data can be used to support the decision-making process. The following summary highlights the PARCC findings for the above-defined event:

- Precision of the data was verified through the review of the laboratory data quality indicators that include LCS/LCSD, MS/MSD, FD, laboratory duplicate and column confirmation RPDs. Precision was acceptable with the exception of several analytes being qualified as estimated detected results in 12 samples due to MS/MSD, FD, laboratory duplicate or column confirmation RPD issues. Data users should consider the impact to any result that is qualified as estimated as it may contain a bias, which could affect the decision-making process.
- Accuracy of the data was verified through the review of the calibration data, LCS/LCSD, MS/MSD, surrogate, and internal standard recoveries, as well as the evaluation of calibration/method/equipment/field/trip blank data. Accuracy was acceptable with three analytes being qualified as estimated detected and non-detected results in four samples due to MS/MSD issues. Acetone, methylene chloride, toluene, total xylenes, methane, TOC, alkalinity, sulfate, sulfide and ferrous iron were qualified as not detected in several samples due to low-level detections in the calibration, method, equipment, field and/or trip blank.



- Representativeness of the data was verified through checking that sample collection, storage, and preservation procedures were followed and through verification of holding-time compliance. Excessive headspace was identified in the VOC or dissolved gas vials for several samples, resulting in data being qualified as estimated. The laboratory did not note any other problems with the sample collection, storage, and preservation procedures. The holding time criterion for VOCs was exceeded for eight samples and the holding time criterion for ferrous iron was exceeded for all of the samples, resulting in data being qualified as estimated. All other data were reported from analyses within the recommended holding time.
- Comparability of the data was verified using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.
- Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared to planned measurements.
- Valid data are defined as all data that are not rejected for project use. 13 VOC analytes in one sample (AFDV-105 [MW-06]) were rejected for project use due to the holding time being exceeded by more than two times. All other data were considered valid. The completeness goal was met for all analytes.



# Data Quality Evaluation for THAN Davenport Semiannual Monitoring Event

## Introduction

The objective of this data quality evaluation (DQE) memorandum is to assess the quality of analytical results for groundwater samples collected at monitoring wells associated with the site at 2040 West River Drive in Davenport, Iowa. Samples were collected by CH2M HILL Engineers, Inc. (CH2M) for T. H. Agriculture & Nutrition, L.L.C. (THAN); Elementis Chemicals, Inc.; and Harcros Chemicals, Inc. (Harcros). Samples were collected on December 5, 2018. Guidance for preparing this DQE memorandum came from the *Quality Assurance Project Plan (QAPP)/Sampling and Analysis Plan, 2040 West River Drive, Davenport, Iowa* (CH2M, 2012); U.S. Environmental Protection Agency (EPA) *Contract Laboratory National Functional Guidelines (NFG) for Inorganic Data Review, January 2010*; and individual method requirements. The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability, and completeness (PARCC) as described in the QAPP.

This DQE memorandum is intended as a general data quality assessment designed to summarize data issues.

## Analytical Data

This DQE memorandum covers one groundwater sample, one field duplicate (FD), one aliquot for a groundwater laboratory matrix spike (MS)/matrix spike duplicate (MSD), one equipment blank (EB), and one field blank (FB). The samples were reported as one sample delivery group (SDG) listed as 280-117849-1. Samples were collected and delivered to TestAmerica, Inc., in Arvada, Colorado. The samples were analyzed by the method listed in Table 1.

**Table 1. Analytical Parameters**

*Data Quality Evaluation for THAN Davenport December 2018 Monitoring Event*

Parameter	Method	Laboratory
Chloride	EPA 300.0	TestAmerica– Arvada

The SDG was assessed by reviewing the following: (1) chain-of- custody documentation; (2) holding-time compliance; (3) temperature compliance; (4) method blank, EB, and FB results; (5) laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) recoveries; (6) MS/MSD recoveries; and (7) FD precision. Ten (10) percent of the data were also reviewed for initial and continuing calibration criteria and any other required quality control (QC) samples at the specified frequencies.

Data flags were assigned according to the NFGs. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but only one final flag is assigned. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample impacts.



The data flags are listed and defined as follows:

- U = Undetected. The analyte was analyzed for but not detected at a concentration equal to or greater than the laboratory reporting limit (RL).
- UB = Undetected due to blank contamination. The analyte was detected in the sample and in an associated calibration, method, equipment, or field blank. The analyte concentration is potentially the result of contamination.

## Findings

The overall summaries of the data validation are contained in the following sections.

### Holding Time and Preservation

All acceptance criteria were met.

### Calibration

Initial and continuing calibration analyses were performed as required by the method. All acceptance criteria were met in the 10 percent reviewed.

### Calibration Blanks

Calibration blanks were analyzed at the required frequency and were free of contamination in the ten percent reviewed with the following exception:

- Chloride was detected at a concentration less than the RL in one initial calibration blank and three continuing calibration blanks. The data in sample AFDV-503 (EB-01) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Results detected greater than five times the concentration that were found in the blanks or that were non-detect were not qualified.

### Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination with the following exception:

- Chloride was detected at a concentration less than the RL in one method blank. The data in sample AFDV-503 (EB-01) were qualified as not detected at the concentration measured and flagged “UB” because the sample concentration was less than five times the blank concentration. Results detected greater than five times the concentration that were found in the blank or that were non-detect were not qualified.

### Field Blanks

One EB (AFDV-503) and one FB (AFDV-504) were collected, analyzed, and were free of contamination.

### Laboratory Control Samples

LCS/LCSDs were analyzed as required, and all accuracy and precision criteria were met.

### Matrix Spike

MS/MSDs were analyzed as required, and all accuracy and precision criteria were met.



### Laboratory Duplicates

The relative percent difference (RPD) between the field sample and laboratory duplicates for chloride were calculated to determine the precision of the results. The RPDs were within the established QC limits of less than 15 percent.

### Field Duplicates

The RPD between the field sample and FD were calculated to determine the precision of the results. The RPDs were within the established QC limits of less than 25 percent.

### Sample Dilutions

The following samples required a dilution to meet calibration criteria.

- Samples AFDV-501 (BW-16) and AFDV-502 (BW-16FD) required a 5X dilution due to elevated concentrations of chloride.

### Chain-of-Custody

Required procedures were followed, and the document was free of errors.

### Overall Assessment

The goal of the assessment is to demonstrate that a sufficient number of representative samples were collected, and the resulting analytical data can be used to support the decision-making process. Valid data are defined as all data that are not rejected for project use. All data were considered valid. The following summary highlights the PARCC findings for the above-defined event:

- Precision of the data was verified through the review of the laboratory data quality indicators that include LCS/LCSD, MS/MSD, FD, and laboratory duplicate RPDs. Precision was acceptable.
- Accuracy of the data was verified through the review of the calibration data, LCS/LCSD and MS/MSD recoveries, as well as through evaluation of calibration/method/equipment/field blank data. Accuracy was acceptable. Chloride was qualified as not detected in the EB due to low-level detections in both the calibration and method blank.
- Representativeness of the data was verified through checking that sample collection, storage, and preservation procedures and through verification of holding-time compliance. The laboratory did not note any problems with the sample collection, storage, or preservation procedures. All data were reported from the analysis within the recommended holding time.
- Comparability of the data was verified using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.
- Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared to planned measurements. The completeness goal was met for all analytes.



# Appendix E

## Groundwater Data Analysis Methods



# Groundwater Data Analysis Methods

The historical and most recent groundwater data were evaluated to assess the effectiveness of onsite and offsite groundwater remedies using the methods described in the following sections.

The Administrative Order on Consent (AOC – Section XXVIII, item number 45) established Remedial Action Objectives (RAOs) for 18 volatile organic compounds (VOCs) based on the historical environmental data that were evaluated and summarized. As noted in the AOC, the AOC Respondents believe that benzene originates from offsite sources other than Respondent operations; however, benzene is included in the preparation of this report's isosurface images, mass estimate calculations, and total VOC distribution discussions.

Due to changes in the monitoring well network through time and the frequency of monitoring at each well, proxy values (i.e., prior sampling event results) were assigned to those wells with missing concentration data for a given year so that a consistent monitoring well network was used for interpolation of the groundwater concentration data. Nondetect values were assumed to be zero for the purposes of the data analyses except for the Mann-Kendall analysis as further described below.

A discussion of elevated reporting limits and detection limits, and their effect, if any, on the relative change in concentrations is also included in the following sections.

## Isosurface Images

Isosurface images were generated for VOCs, total chlorinated VOCs (CVOCs), and total aromatics for the 2005 and 2018 datasets. These isosurface images are based on the three-dimensional isovolume that is generated by kriging each dataset using the *GSLIB: Geostatistical Software Library and User's Guide* (Deutsch and Journel, 1992) geostatistical algorithms as implemented within the Stanford Geostatistical Modeling Software, version 2.1 (SGeMS) (Remy, 2009). The SGeMS is an open-source computer package for solving problems involving spatially related variables.

Kriging is an interpolation technique that calculates a concentration at an unknown location through a weighted average of known points within a data-specific neighborhood (Isaaks and Srivastava, 1989). Kriging is a global estimator in that its estimate represents all the data within the defined area.

The geospatial modeling at the site was conducted using a regular grid that is 1,560 feet wide (easting direction) and 1,640 feet long (northing direction) and that extends to 480 feet below ground surface. The upper surface of the model domain is constrained by the potentiometric surface. The grid spacing is 20 feet in the horizontal x and y directions and 5 feet in the z (depth) direction, resulting in a model containing a total of 636,029 known points (nodes). The resultant isoconcentration figures represent a two-dimensional planar/map surface of the maximum concentration across the entire depth interval at each location (x,y) grid node.

Least squares interpolation algorithms, such as kriging, tend to soften local details of the spatial variation of the interpolated attribute. This results in a form of conditional bias that can somewhat overestimate or underestimate values at individual points. The softening is a function of data density and configuration; areas of greater density will show more local variability while areas having sparse data will be more uniform (Goovaerts, 1997). This may result in monitoring wells being shown inside a isoconcentration contour even though the concentrations detected at the well were less than the isoconcentration contour.



## Mass Estimate Calculations

Total mass estimates and mass for individual VOC compounds were calculated using the Thiessen polygon method (Fetter, 2004), a spatially integrated method that provides a rough approximation of the dissolved mass present in groundwater. The resultant site-wide mass estimates for individual sampling events are then used to evaluate changes in the mass of total VOCs over time. The approach assumes that the estimated mass can be calculated by multiple polygons of defined area, depth, and concentration. Polygon borders are established at locations halfway between a given well and each well adjacent to it. For wells without adjacent wells on each side (i.e., downgradient monitoring wells), a polygon border of 10 percent is assigned, as shown on Figure E-1.

As discussed above, proxy values were assigned to those wells with missing concentration data for a given year so that the same number of polygons can be used for each year's calculation. Therefore, the use of proxy values conservatively overestimates mass values because ongoing/achieved constituent degradation is not accounted for when an older concentration value is used.

The mass for an individual VOC compound in groundwater was calculated by multiplying its concentration measured in a well central to its Thiessen polygon times the pore volume (polygonal area multiplied by the vertical saturated thickness and total porosity) within each individual polygon. Individual polygon masses were then summed to get the total mass for that VOC compound across the polygon network.

After the mass was estimated for each year, the Mann-Kendall test (discussed below) was applied to the set of estimated mass values to evaluate whether the total VOC mass exhibited a trend.

## Mann-Kendall Statistical Test

The Mann-Kendall test is a nonparametric test used to identify whether there is a statistically significant trend over the period of monitoring. The Mann-Kendall test is based on the idea that a lack of trend should correspond to a time versus concentration plot that fluctuates randomly about a constant mean level, with no visually apparent upward or downward pattern (U.S. Environmental Protection Agency [EPA], 2009). As a nonparametric procedure, the Mann-Kendall test does not require the underlying data to follow a specific distribution. The test compares the relative magnitudes of sample data rather than the data values. Analytical data reported at less than the reporting or detection limit (nondetects) can be used by assigning them a common value that is smaller than the smallest measured value in the data set (Gilbert, 1987). For this project analysis, a value of 0.01 micrograms per liter ( $\mu\text{g/L}$ ) was assigned to nondetects.

A 0.05 significance level (corresponding to a 95 percent confidence level) was used to test the null hypothesis that there is no trend in the data. The significance level is the probability that a test erroneously detects a trend when none is present. For a 0.05 significance level, there is a 1-in-20 chance of a conclusion being incorrect when the number of tests is quite small. A 0.05 significance level was selected to provide strong evidence against the null hypothesis, thus reducing an erroneous test result. A significance level of 0.05 is one of the most commonly used significance levels in environmental statistics, including the testing of temporal trends in groundwater concentration data. EPA's ProUCL Version 5.1 software (EPA, 2015) uses a 0.05 significance level as a default value for the Mann-Kendall test.

Maintaining statistical validity of the trend analysis requires constraints on the amount of minimum data that can be tested. To ensure a meaningful comparison of concentrations over time, evaluations of trends were performed only for wells with at least six independent sampling events and a detection frequency of greater than 50 percent. The temporal behavior of the concentration data was also examined graphically to confirm the results of the trend analysis. A time series plot of concentrations



was generated for each monitoring well and includes the use of a locally weighted scatter plot smoothing curve to visually show the overall trend in the data (Cleveland, 1979).

For well-constituent pairs where no trend could be statistically determined at the 95-percent confidence level, concentrations were deemed stable if the coefficient of variation (COV) was less than 1. The COV is a relative measure of variation in the groundwater concentration data and can be affected by the magnitude of concentrations (EPA, 2009). As such, relatively higher concentrations can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean. Values less than or near to a COV of 1 indicate that the data form a relatively close group about the mean value. Therefore, it is surmised that the determination of no trend corresponds to stable concentrations if the COV is less than 1. If the COV is greater than 1, it is possible that the determination of no trend has been adversely influenced by data variability (fluctuating concentrations).

## Assessment of Elevated Reporting and Detection Limits

Although the evaluation methods above are based on a relative comparison between sampling events, an evaluation of elevated reporting limits and detection limits, and their effect, if any, on the relative change in total concentrations was completed in 2015, using the 2005 to 2015 dataset. The detection and reporting limits in the datasets over a 10-year period were reviewed and the following was identified:

- In general, for a given compound, there are more instances of elevated detection and reporting limits above RAOs in the historical datasets than there are in the more recent datasets.
- The detection and reporting limits above RAOs for a given compound in the historical datasets are also generally higher than the detection and reporting limits above RAOs in the more recent datasets.

For monitoring wells exhibiting elevated detection and reporting limits (such as offsite monitoring well BW-14), the concentrations of VOCs detected are much higher than the “value” associated with the elevated detection and reporting limits. Therefore, if one-half of the detection limit is used for nondetects to calculate the total VOC concentration instead of using 0, the total VOC concentration is impacted minimally. For instance, the total VOC concentration was calculated for BW-14 using one-half of the detection limit as the concentration for nondetected compounds, and also 0 as the concentration for nondetected compounds from 2008 to 2015 (note offsite monitoring well BW-14 was not sampled between 2005 and 2008), and the following were identified:

- The relative percent difference between the total VOC concentrations using these two methods has ranged from 0.03 to 3.89 percent between 2008 and 2015.
- Both summation methods (using 0 for nondetects and using one-half of the detection limit for nondetects) show a decrease in total VOC concentrations at BW-14 between 2008 and 2015. Therefore, different conclusions are not being drawn from the relative comparison between each year’s data set by using 0 as the nondetect value versus using one-half of the detection limit.

Based on this analysis, elevated detection and reporting limits are not impacting the relative comparison of each of these data analysis methods from year to year.

## References

Cleveland, W.S. 1979. “Robust locally weighted regression and smoothing scatterplots.” *Journal of the American Statistical Association* 74 (368): 829–836.



Deutsch, C.V. and A.G. Journel. 1992. *GSLIB: Geostatistical Software Library and User's Guide*. 2nd ed. Oxford University Press, New York.

Fetter, C. W. 2004. *Applied Hydrogeology, Fourth Addition*. Merrill Publishing Company. Pp. 75, 76.

Gilbert, R. O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. John Wiley and Sons, Inc. New York.

Goovaerts, P. 1977. *Geostatistics for Natural Resources Evaluation*. Oxford University Press, New York.

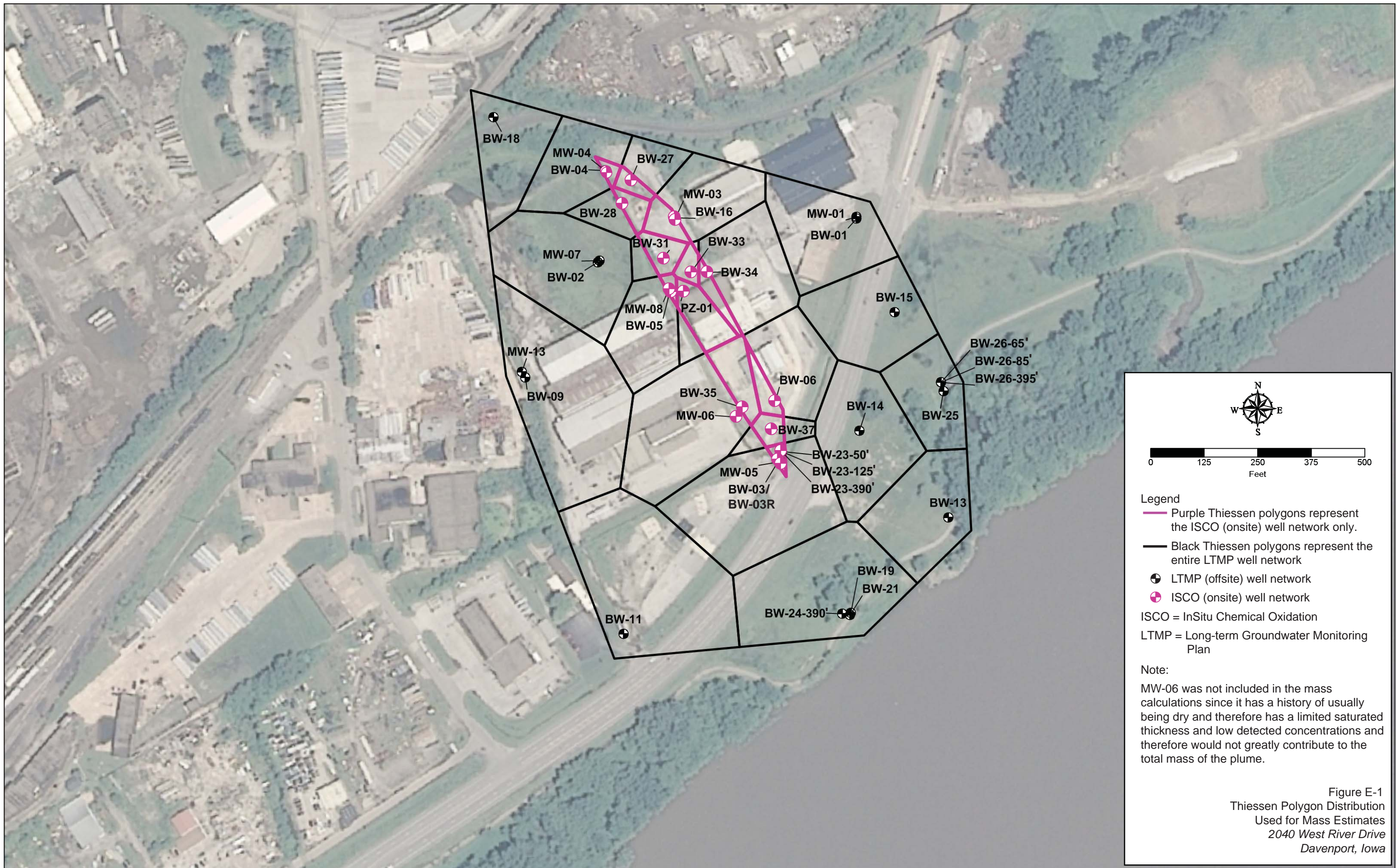
Isaaks, E.H., and R.M. Srivastava. 1989. *An Introduction to Applied Geostatistics*. Oxford University Press, New York.

Remy, N., A. Boucher, and J. Wu. 2009. *Applied Geostatistics with SGeMS: A User's Guide*. Cambridge University Press.

U.S. Environmental Protection Agency (EPA). 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities: Unified Guidance*. EPA-530-R-09-007. Office of Resource Conservation and Recovery. Washington DC. March.

United States Environmental Protection Agency (EPA). 2015. *ProUCL Version 5.1 Technical Guide*. October.







# Appendix F

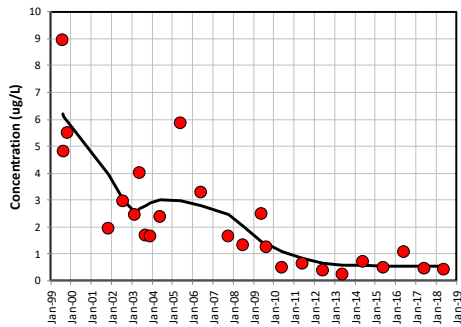
## Mann-Kendall Trend Plots and Statistical Analysis of Trend Plots



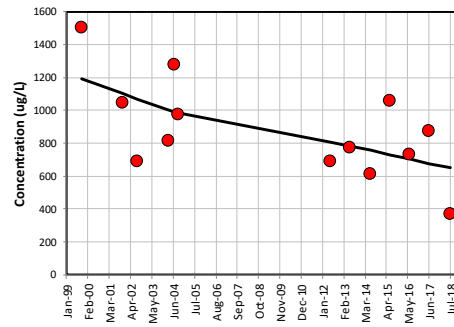
Total VOC Graphs



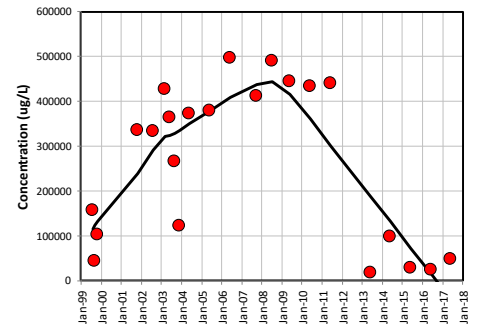
VOCS in BW-01



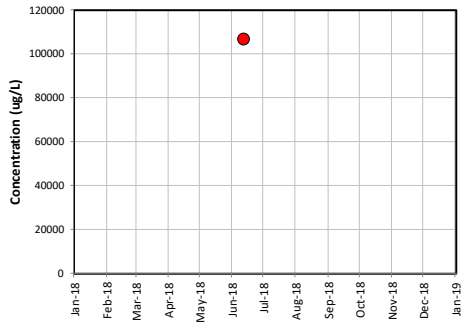
VOCS in BW-02



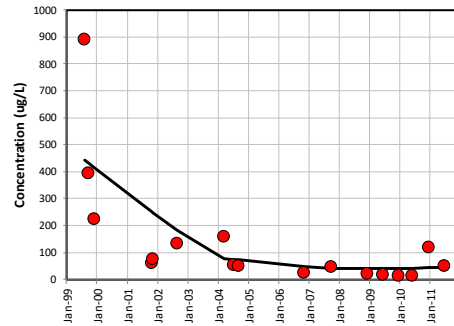
VOCS in BW-03/BW-03R



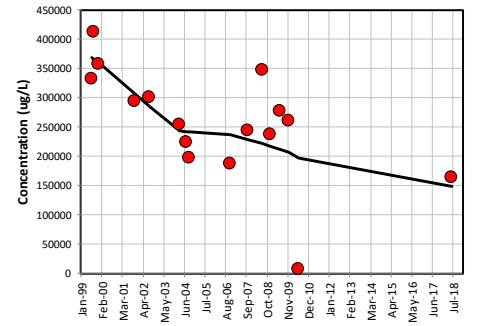
VOCS in BW-03R



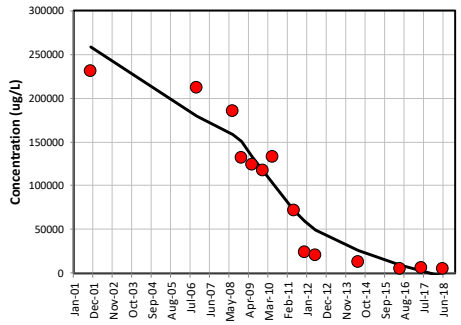
VOCS in BW-04



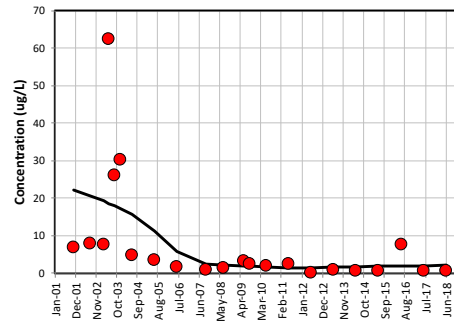
VOCS in BW-05



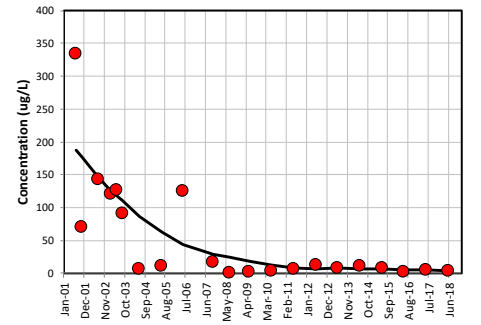
VOCS in BW-06



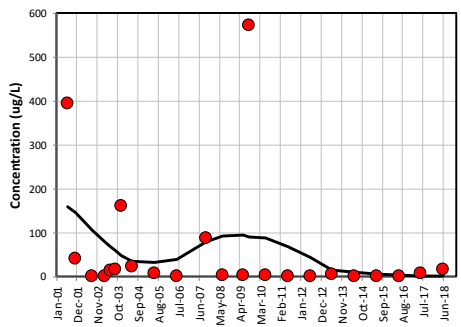
VOCS in BW-09



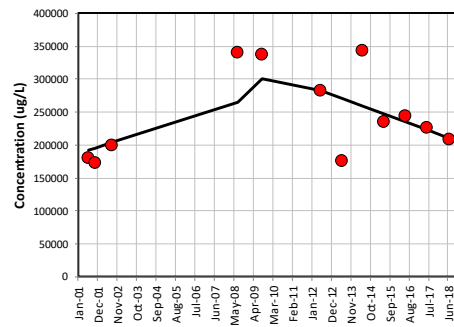
VOCS in BW-11



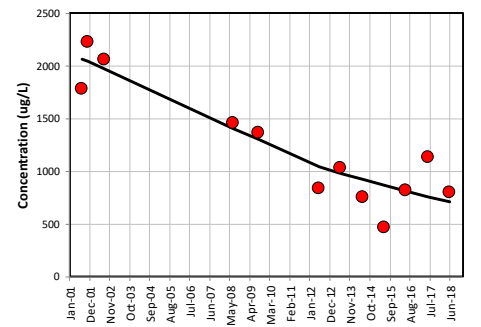
VOCS in BW-13



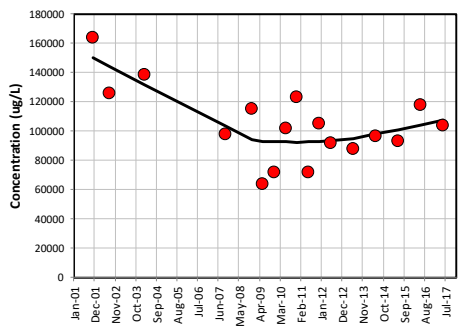
VOCS in BW-14



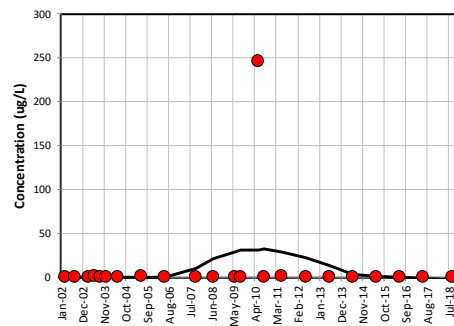
VOCS in BW-15



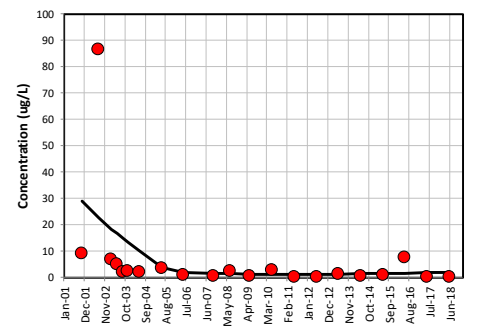
VOCS in BW-16



VOCS in BW-18

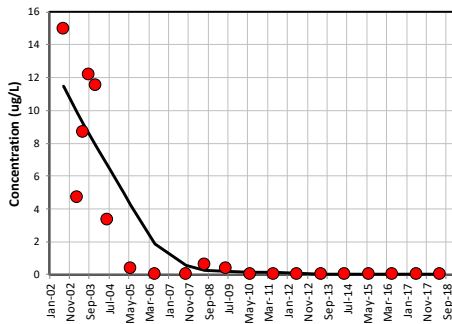


VOCS in BW-19

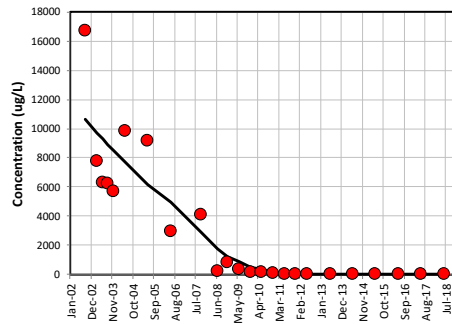




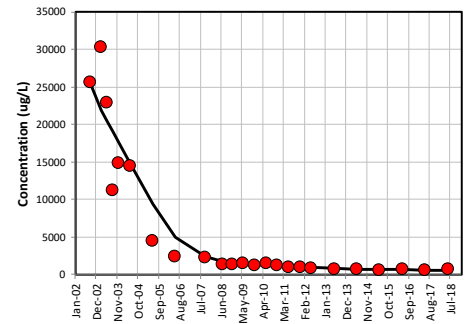
VOCS in BW-21



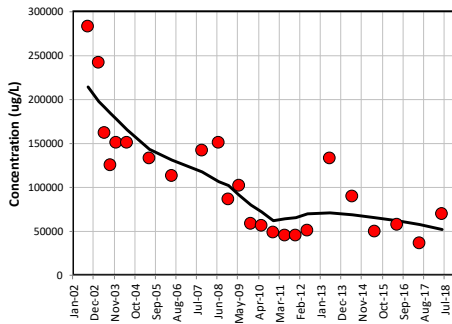
VOCS in BW-23-125'



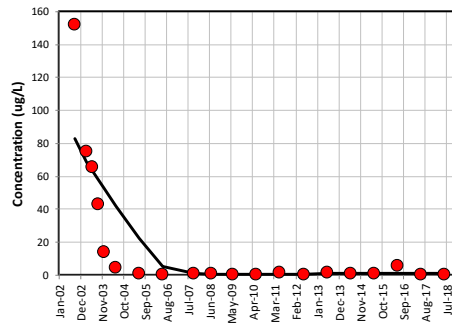
VOCS in BW-23-390'



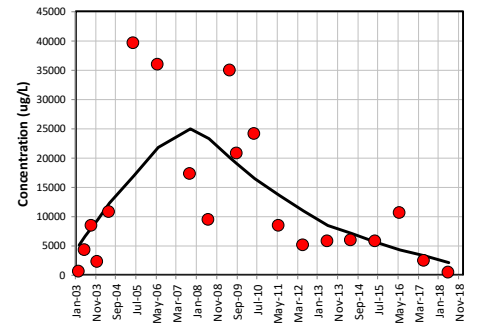
VOCS in BW-23-50'



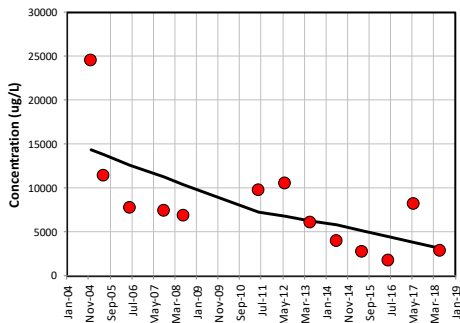
VOCS in BW-24-390'



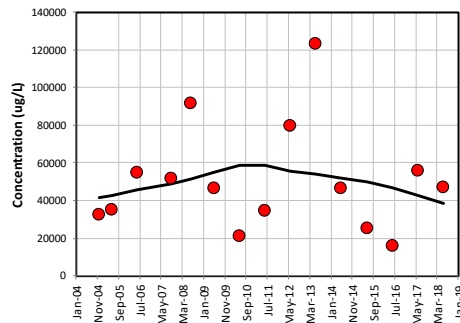
VOCS in BW-25



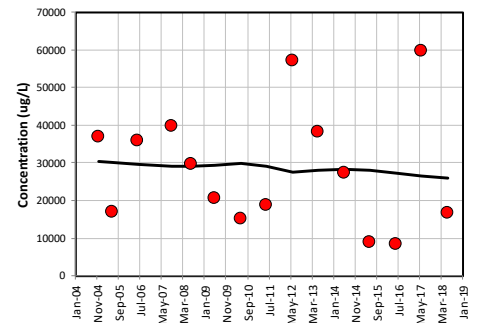
VOCS in BW-26-395'



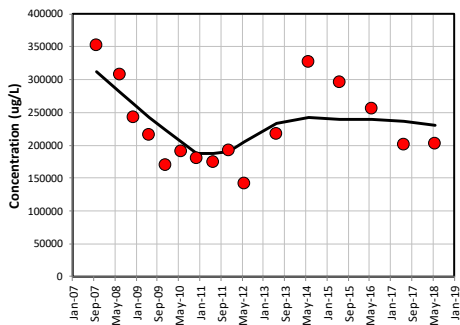
VOCS in BW-26-65'



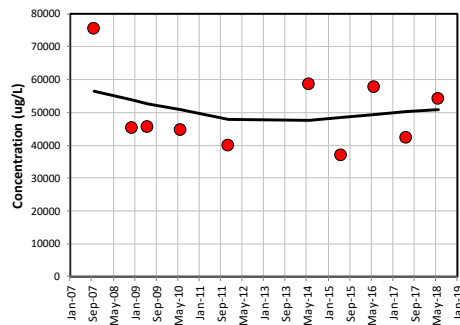
VOCS in BW-26-85'



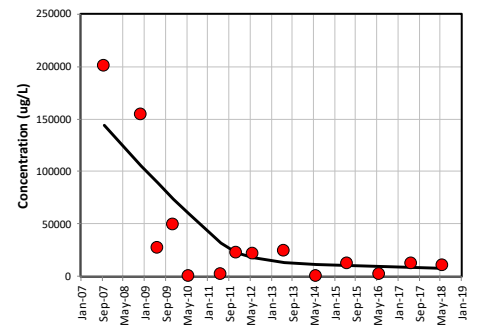
VOCS in BW-27



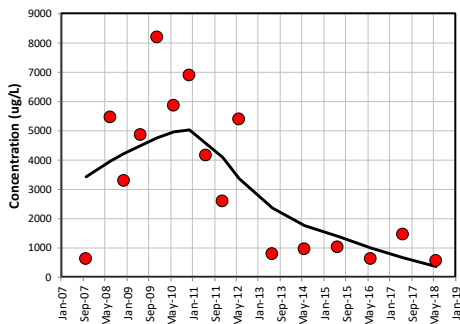
VOCS in BW-28



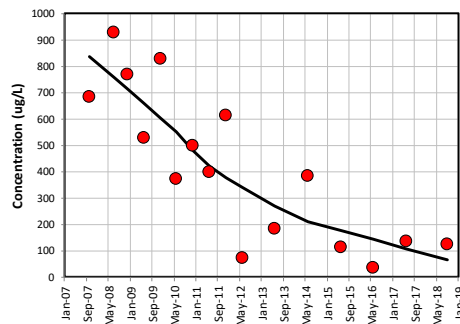
VOCS in BW-31



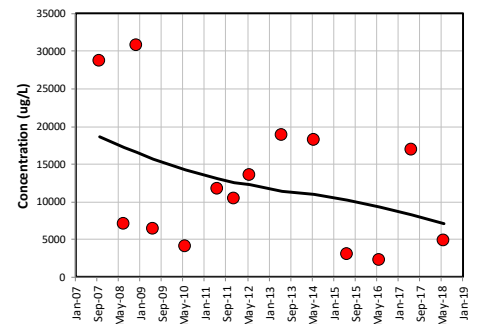
VOCS in BW-33



VOCS in BW-34

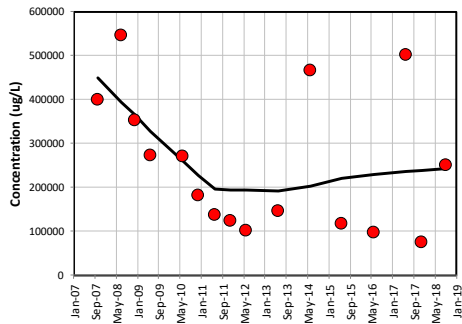


VOCS in BW-35

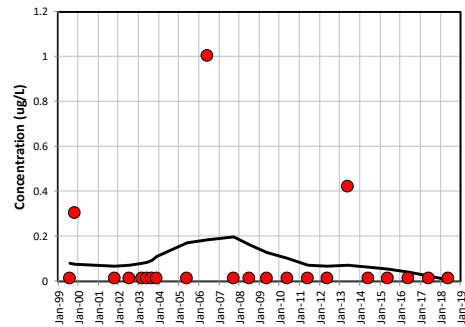




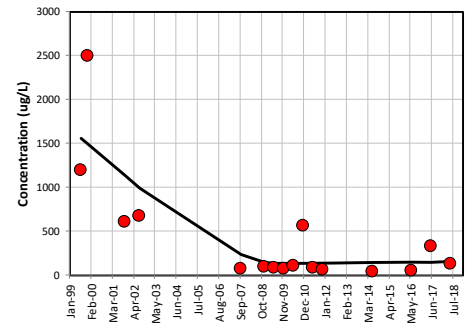
VOCS in BW-37



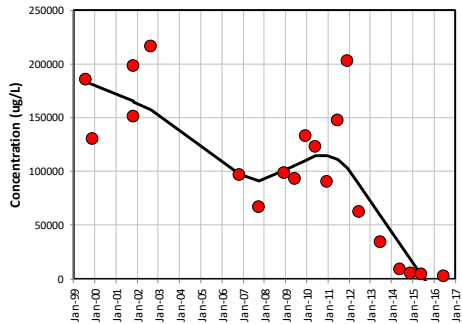
VOCS in MW-01



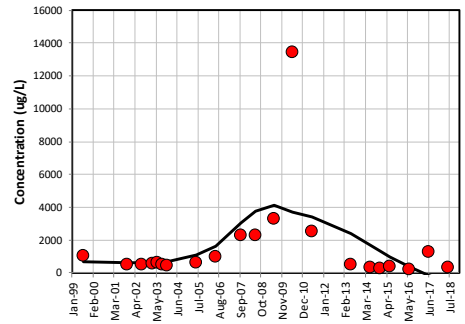
VOCS in MW-03



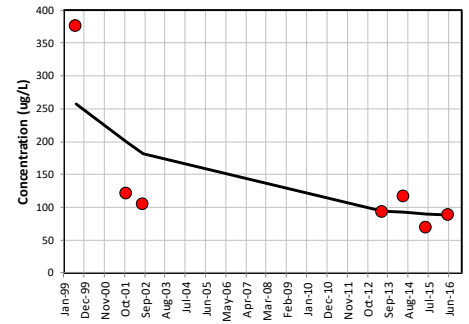
VOCS in MW-04



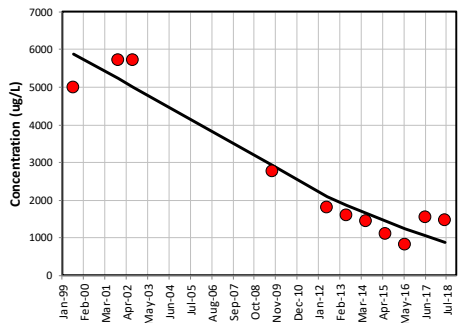
VOCS in MW-05



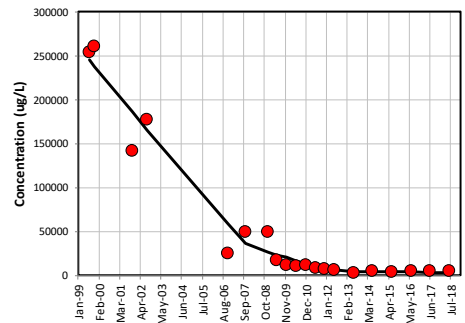
VOCS in MW-06



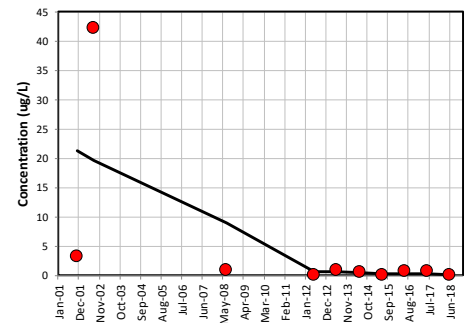
VOCS in MW-07



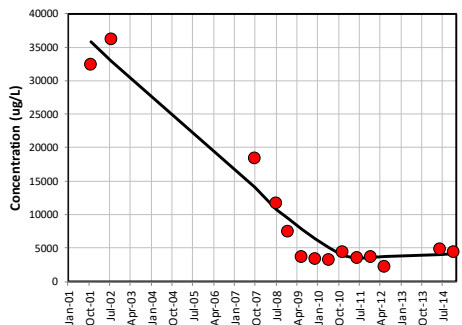
VOCS in MW-08



VOCS in MW-13



VOCS in PZ-01





# Tetrachloroethene Graphs



Table F-1. Tetrachloroethene Concentration Trends at Individual Wells Using Mann-Kendall Analysis  
 THAN Davenport Site, 2040 West River Drive

Well	Total Samples	Monitored Zone	Detection Frequency (%)	Mann-Kendall Result	Mann-Kendall Trend	Stability	Last Sample Date
<b>ISCO Monitoring Wells</b>							
BW-03/BW-03R	23	Shallow Bedrock	96	98.7% (sig -)	Decreasing	NA	Jun-18
BW-04	17	Shallow Bedrock	65	97.1% (sig -)	Decreasing	NA	Jun-11
BW-05	16	Shallow Bedrock	63	100.0% (sig -)	Decreasing	NA	Jun-18
BW-06	14	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-16	17	Shallow Bedrock	100	99.9% (sig -)	Decreasing	NA	Jun-17
BW-23-50'	24	Shallow Bedrock	29	NA	>50% ND	NA	Jun-18
BW-23-125'	24	Intermediate Bedrock	4	NA	>50% ND	NA	Jun-18
BW-23-390'	24	Deep Bedrock	13	NA	>50% ND	NA	Jun-18
BW-27	16	Shallow Bedrock	69	99.9% (sig -)	Decreasing	NA	Jun-18
BW-28	10	Shallow Bedrock	100	85.4% (-)	No Trend	Stable	Jun-18
BW-31	14	Shallow Bedrock	29	NA	>50% ND	NA	Jun-18
BW-33	16	Shallow Bedrock	19	NA	>50% ND	NA	Jun-18
BW-34	16	Shallow Bedrock	6	NA	>50% ND	NA	Sep-18
BW-35	14	Shallow Bedrock	57	92.9% (-)	No Trend	Not Stable	Jun-18
BW-37	16	Shallow Bedrock	50	94.2% (-)	No Trend	Not Stable	Sep-18
MW-03	16	Unconsolidated	94	70.5% (-)	No Trend	Stable	Jun-18
MW-04	20	Unconsolidated	100	99.4% (sig -)	Decreasing	NA	Jun-16
MW-05	21	Unconsolidated	100	98.6% (sig -)	Decreasing	NA	Jun-18
MW-06	7	Unconsolidated	100	88.1% (+)	No Trend	Stable	Jun-16
MW-08	20	Unconsolidated	90	59.0% (-)	No Trend	Stable	Jun-18
PZ-01	14	Shallow Bedrock	0	NA	>50% ND	NA	Dec-14
<b>MNA Monitoring Wells</b>							
BW-01	25	Shallow Bedrock	8	NA	>50% ND	NA	Jun-18
BW-02	13	Shallow Bedrock	0	NA	>50% ND	NA	Jul-18
BW-09	22	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-11	21	Shallow Bedrock	43	NA	>50% ND	NA	Jun-18
BW-13	23	Shallow Bedrock	9	NA	>50% ND	NA	Jun-18
BW-14	12	Shallow Bedrock	17	NA	>50% ND	NA	Jul-18
BW-15	12	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-18	23	Shallow Bedrock	4	NA	>50% ND	NA	Sep-18
BW-19	21	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-21	20	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-24-390'	20	Deep Bedrock	0	NA	>50% ND	NA	Jun-18
BW-25	20	Shallow Bedrock	5	NA	>50% ND	NA	Jun-18
BW-26-65'	15	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-26-85'	15	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-26-395'	13	Deep Bedrock	8	NA	>50% ND	NA	Jun-18
MW-01	22	Unconsolidated	9	NA	>50% ND	NA	Jun-18
MW-07	11	Unconsolidated	18	NA	>50% ND	NA	Jun-18
MW-13	10	Unconsolidated	0	NA	>50% ND	NA	Jun-18

**Notes:**

% = percent

NA = not applicable

>50% ND = greater than 50 percent nondetects.

sig = significance

- = decreasing

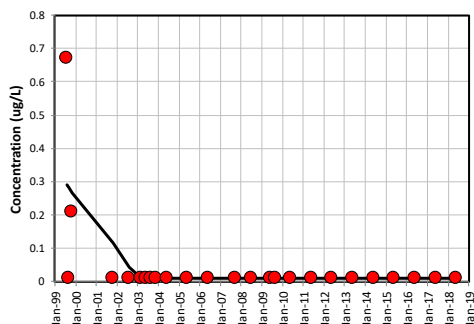
+ = increasing

Trend analysis performed using Mann Kendall single-tailed test at 0.05 significance level.

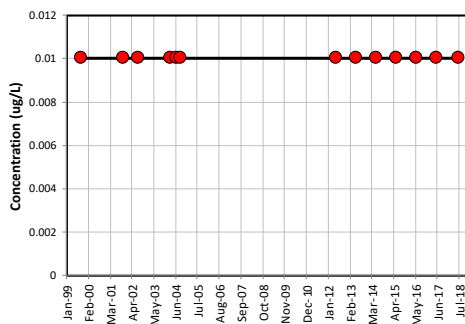
For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than 1. The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are high can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.



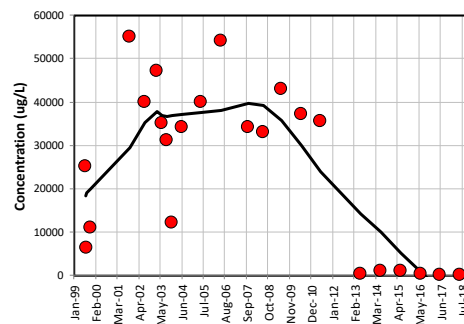
PCE in BW-01



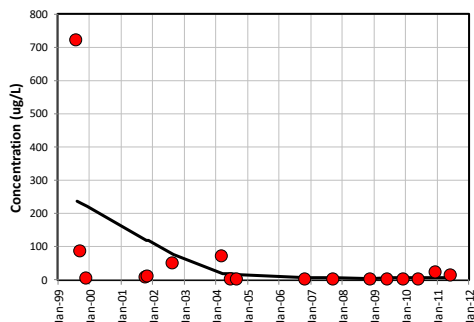
PCE in BW-02



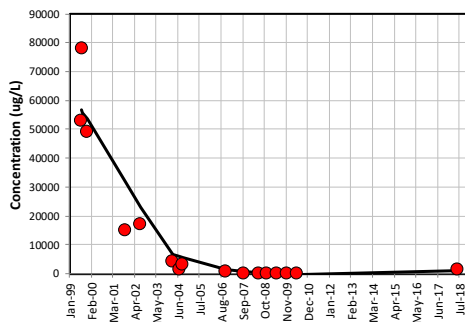
PCE in BW-03/BW-03R



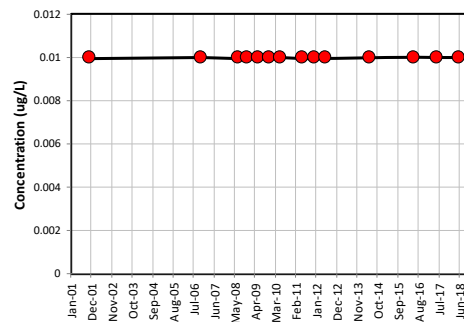
PCE in BW-04



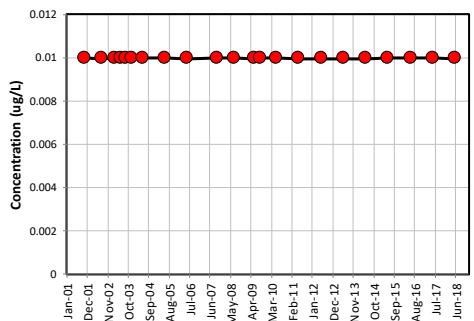
PCE in BW-05



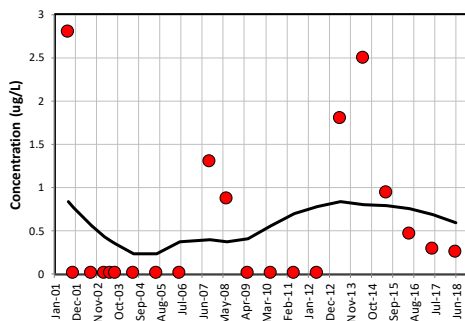
PCE in BW-06



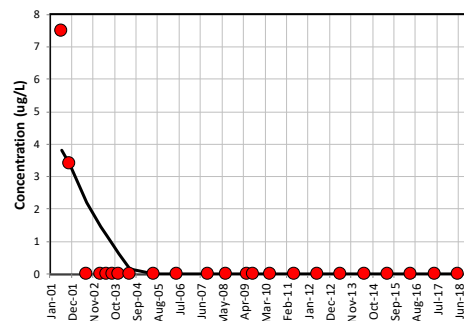
PCE in BW-09



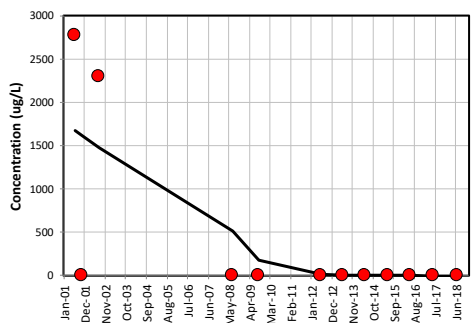
PCE in BW-11



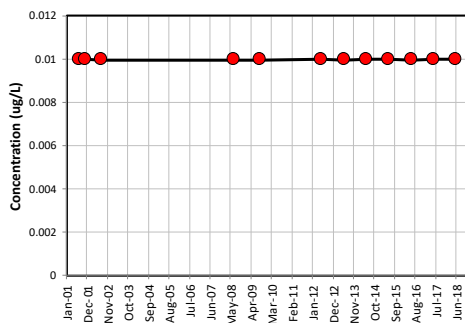
PCE in BW-13



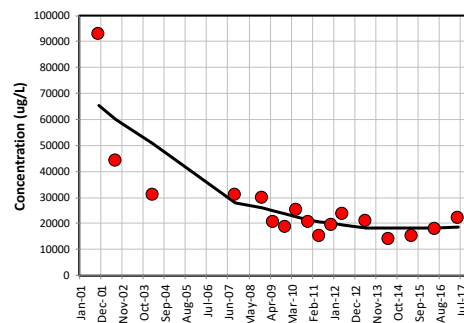
PCE in BW-14



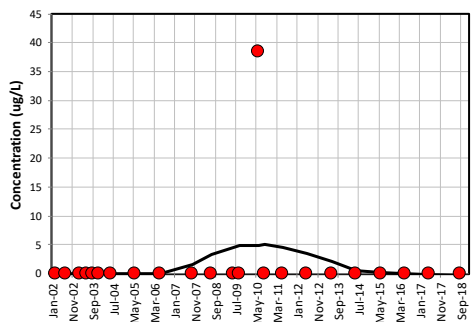
PCE in BW-15



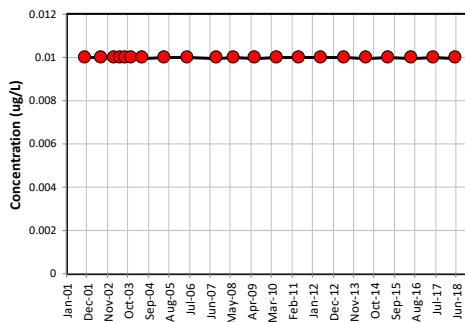
PCE in BW-16



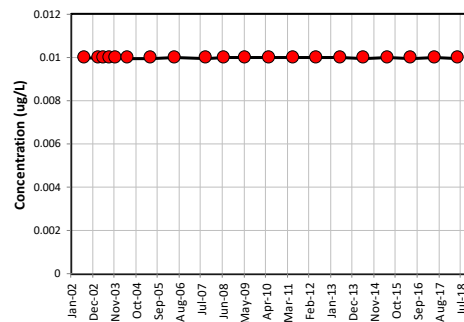
PCE in BW-18



PCE in BW-19

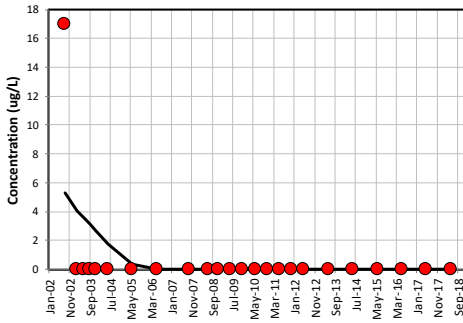


PCE in BW-21

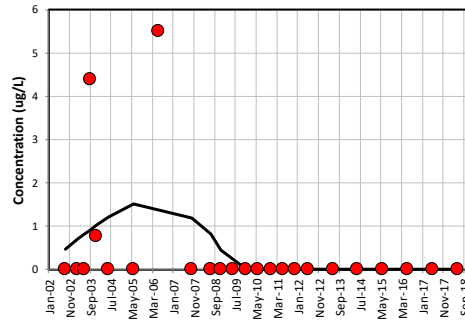




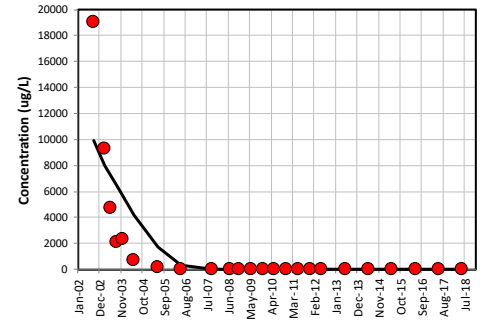
PCE in BW-23-125'



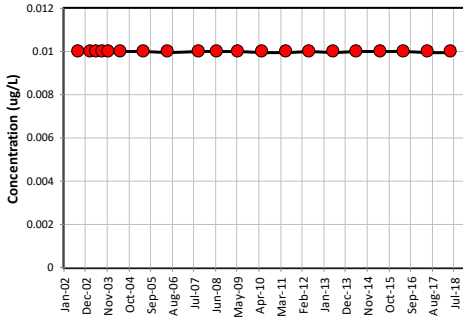
PCE in BW-23-390'



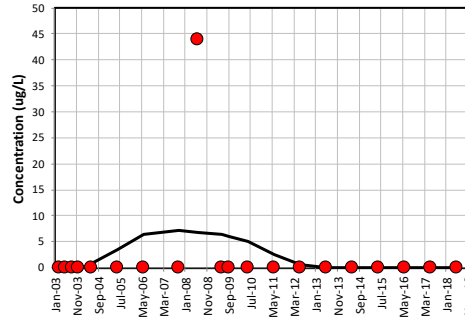
PCE in BW-23-50'



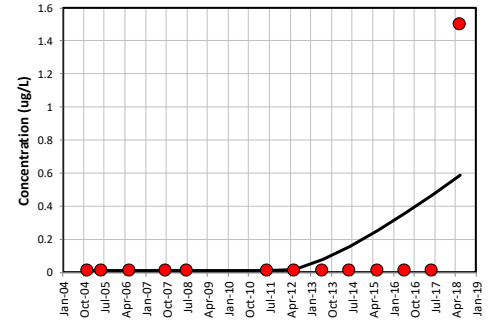
PCE in BW-24-390'



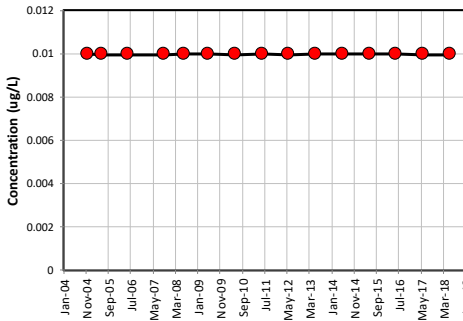
PCE in BW-25



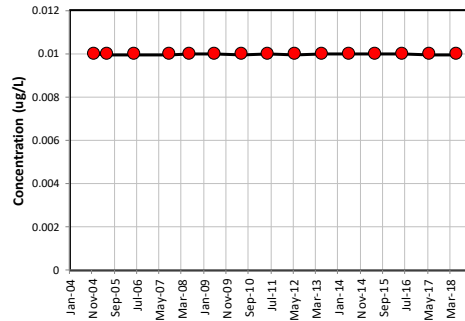
PCE in BW-26-395'



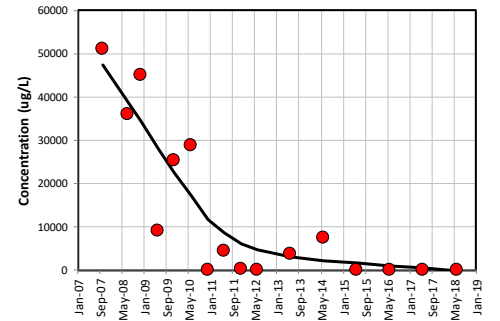
PCE in BW-26-65'



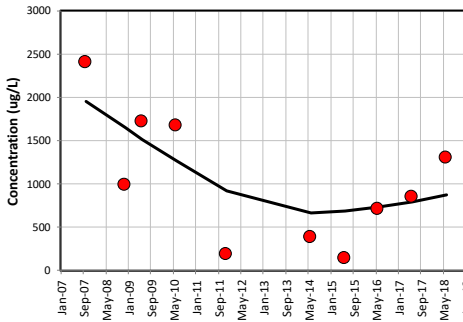
PCE in BW-26-85'



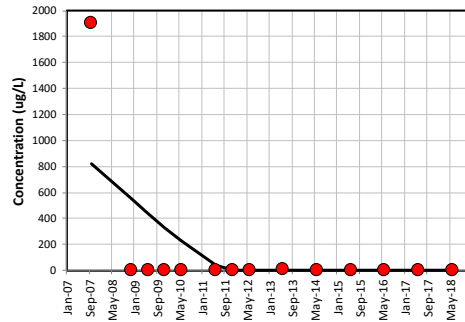
PCE in BW-27



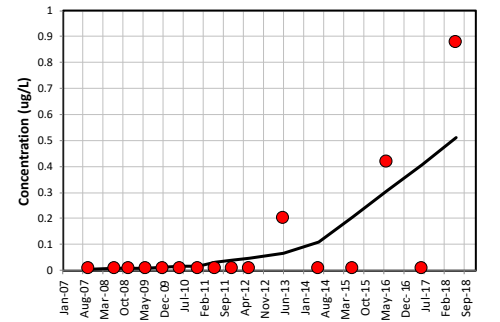
PCE in BW-28



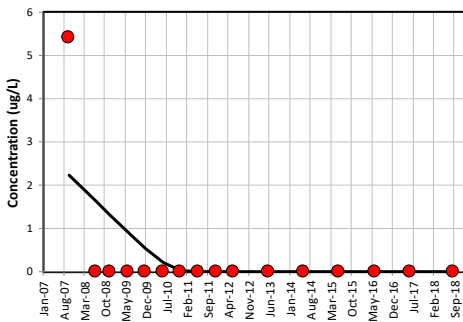
PCE in BW-31



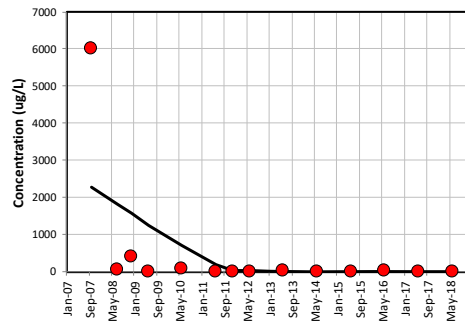
PCE in BW-33



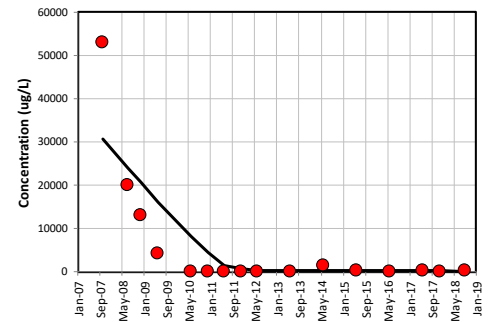
PCE in BW-34



PCE in BW-35

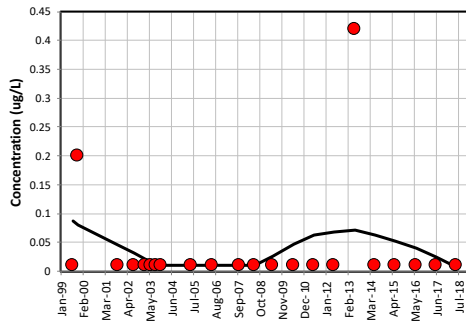


PCE in BW-37

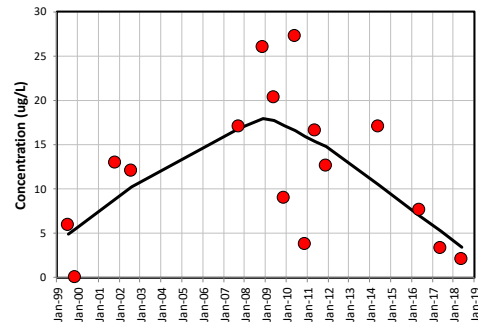




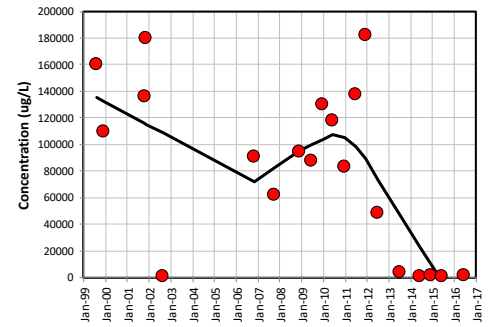
PCE in MW-01



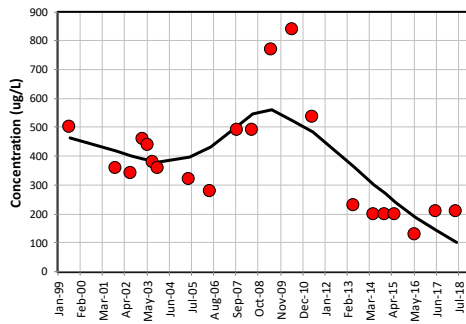
PCE in MW-03



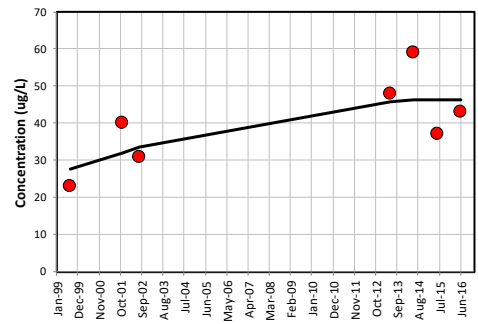
PCE in MW-04



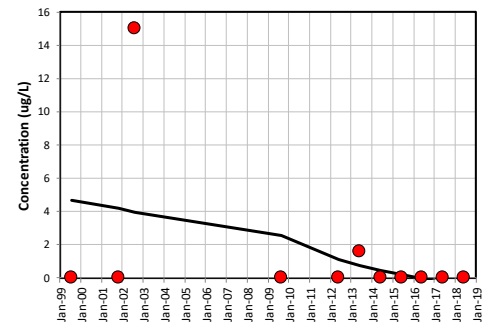
PCE in MW-05



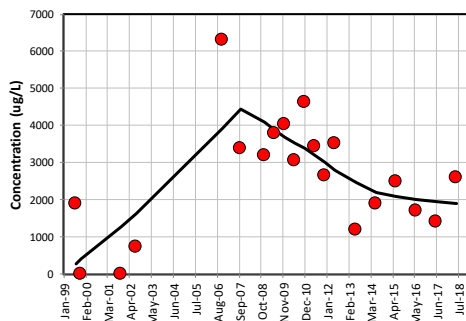
PCE in MW-06



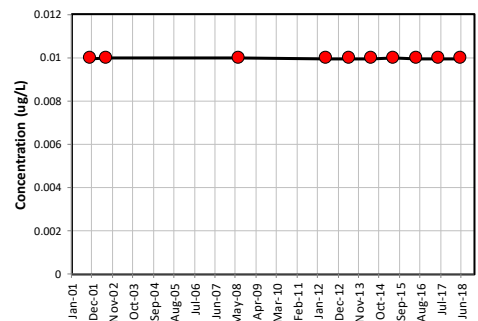
PCE in MW-07



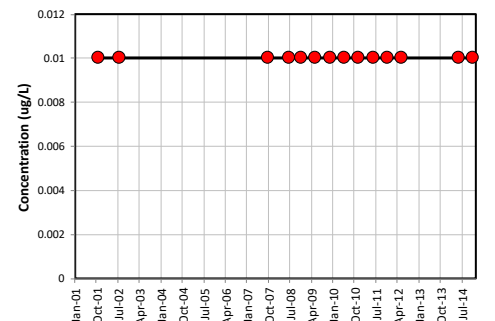
PCE in MW-08



PCE in MW-13



PCE in PZ-01





## Trichloroethene Graphs



Table F-2. Trichloroethene Concentration Trends at Individual Wells Using Mann-Kendall Analysis:

THAN Davenport Site, 2040 West River Drive

Well	Total Samples	Monitored Zone	Detection Frequency (%)	Mann-Kendall Result	Mann-Kendall Trend	Stability	Last Sample Date
<b>ISCO Monitoring Wells</b>							
BW-03/BW-03R	23	Shallow Bedrock	87	99.7% (sig -)	Decreasing	NA	Jun-18
BW-04	17	Shallow Bedrock	82	99.7% (sig -)	Decreasing	NA	Jun-11
BW-05	16	Shallow Bedrock	56	100.0% (sig -)	Decreasing	NA	Jun-18
BW-06	14	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-16	17	Shallow Bedrock	100	97.1% (sig +)	Increasing	NA	Jun-17
BW-23-50'	24	Shallow Bedrock	33	NA	>50% ND	NA	Jun-18
BW-23-125'	24	Intermediate Bedrock	4	NA	>50% ND	NA	Jun-18
BW-23-390'	24	Deep Bedrock	17	NA	>50% ND	NA	Jun-18
BW-27	16	Shallow Bedrock	88	100.0% (sig -)	Decreasing	NA	Jun-18
BW-28	10	Shallow Bedrock	100	92.2% (-)	No Trend	Stable	Jun-18
BW-31	14	Shallow Bedrock	29	NA	>50% ND	NA	Jun-18
BW-33	16	Shallow Bedrock	44	NA	>50% ND	NA	Jun-18
BW-34	16	Shallow Bedrock	6	NA	>50% ND	NA	Sep-18
BW-35	14	Shallow Bedrock	57	52.1% (-)	No Trend	Not Stable	Jun-18
BW-37	16	Shallow Bedrock	44	NA	>50% ND	NA	Sep-18
MW-03	16	Unconsolidated	94	92.5% (-)	No Trend	Stable	Jun-18
MW-04	20	Unconsolidated	95	63.9% (-)	No Trend	Stable	Jun-16
MW-05	21	Unconsolidated	100	96.0% (sig -)	Decreasing	NA	Jun-18
MW-06	7	Unconsolidated	100	93.2% (-)	No Trend	Stable	Jun-16
MW-08	20	Unconsolidated	85	89.7% (-)	No Trend	Stable	Jun-18
PZ-01	14	Shallow Bedrock	14	NA	>50% ND	NA	Dec-14
<b>MNA Monitoring Wells</b>							
BW-01	25	Shallow Bedrock	12	NA	>50% ND	NA	Jun-18
BW-02	13	Shallow Bedrock	46	NA	>50% ND	NA	Jul-18
BW-09	22	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-11	21	Shallow Bedrock	67	76.6% (-)	No Trend	Not Stable	Jun-18
BW-13	23	Shallow Bedrock	9	NA	>50% ND	NA	Jun-18
BW-14	12	Shallow Bedrock	25	NA	>50% ND	NA	Jul-18
BW-15	12	Shallow Bedrock	42	NA	>50% ND	NA	Jun-18
BW-18	23	Shallow Bedrock	4	NA	>50% ND	NA	Sep-18
BW-19	21	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-21	20	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-24-390'	20	Deep Bedrock	0	NA	>50% ND	NA	Jun-18
BW-25	20	Shallow Bedrock	5	NA	>50% ND	NA	Jun-18
BW-26-65'	15	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-26-85'	15	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-26-395'	13	Deep Bedrock	0	NA	>50% ND	NA	Jun-18
MW-01	22	Unconsolidated	0	NA	>50% ND	NA	Jun-18
MW-07	11	Unconsolidated	82	92.9% (-)	No Trend	Not Stable	Jun-18
MW-13	10	Unconsolidated	0	NA	>50% ND	NA	Jun-18

Notes:

% = percent

- = decreasing

sig = significance

NA = not applicable

+ = increasing

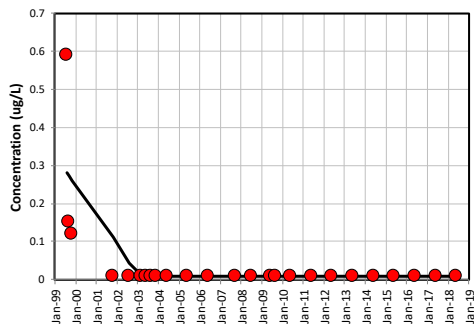
&gt;50% ND = greater than 50 percent nondetects.

Trend analysis performed using Mann Kendall single-tailed test at 0.05 significance level.

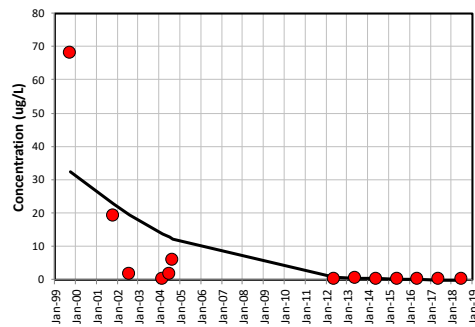
For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than one. The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are high can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.



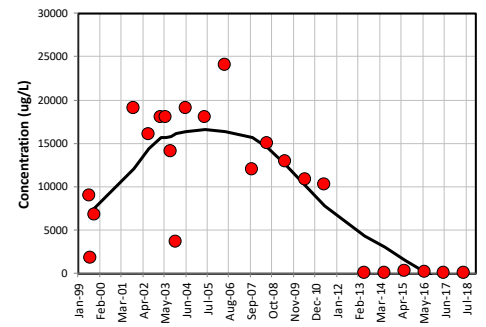
TCE in BW-01



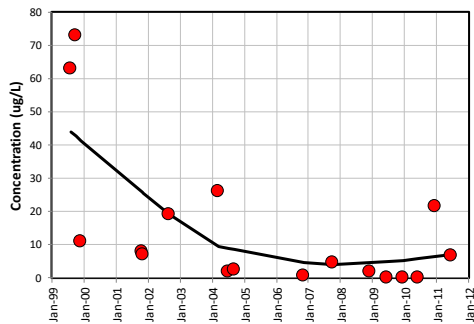
TCE in BW-02



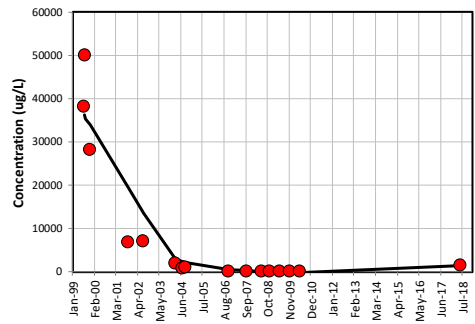
TCE in BW-03/BW-03R



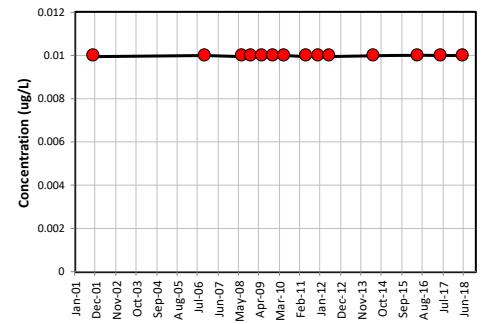
TCE in BW-04



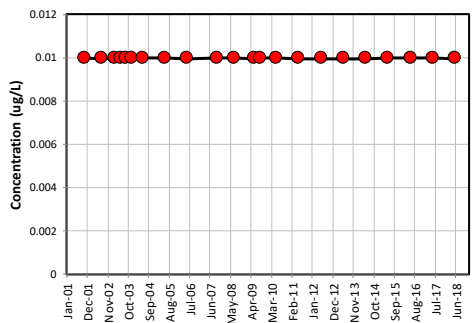
TCE in BW-05



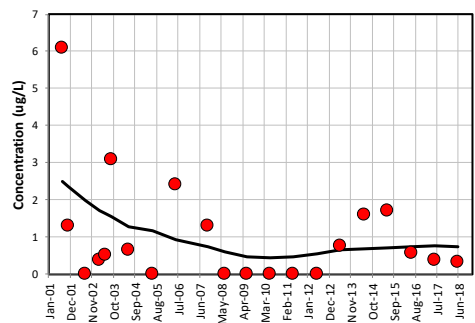
TCE in BW-06



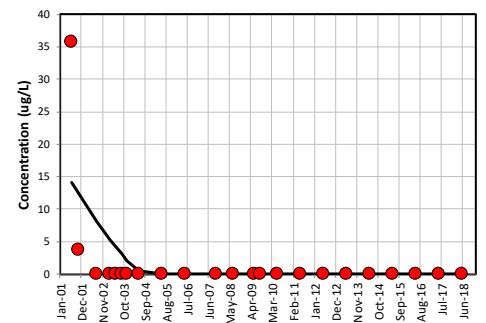
TCE in BW-09



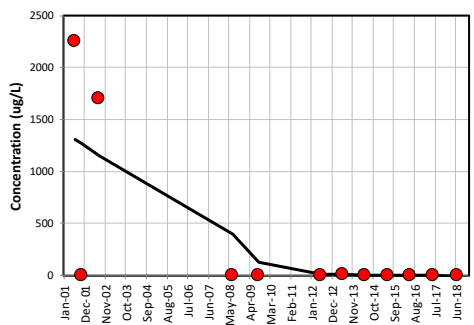
TCE in BW-11



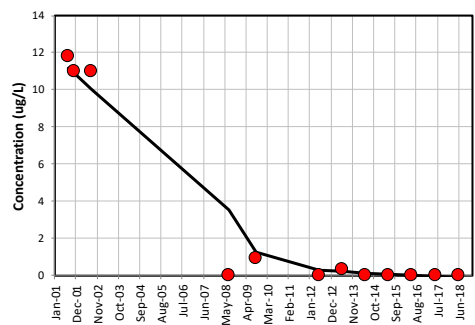
TCE in BW-13



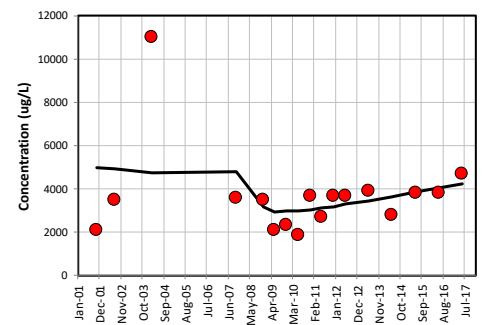
TCE in BW-14



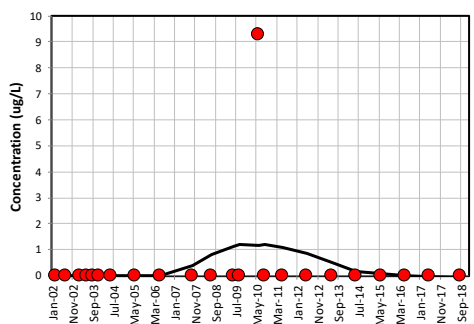
TCE in BW-15



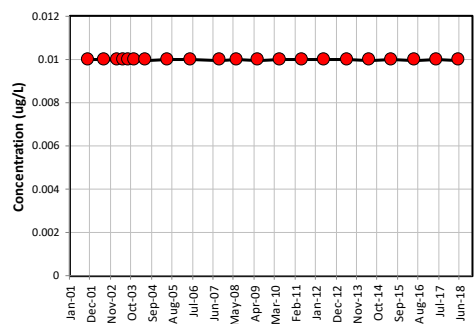
TCE in BW-16



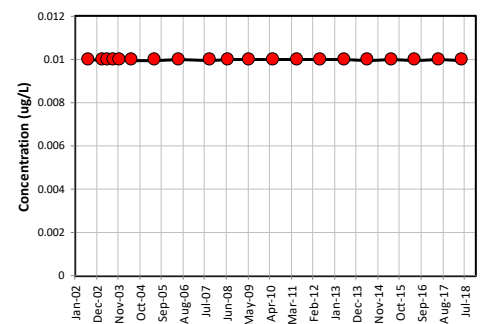
TCE in BW-18



TCE in BW-19

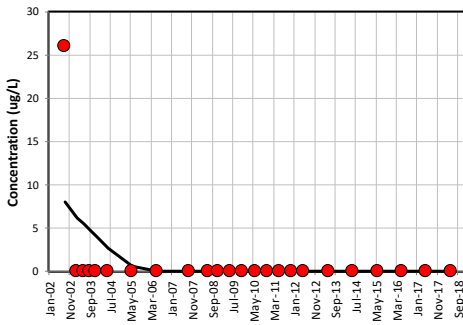


TCE in BW-21

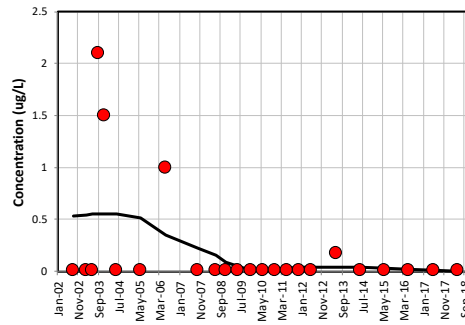




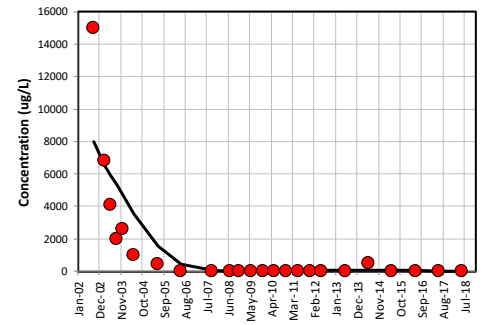
TCE in BW-23-125'



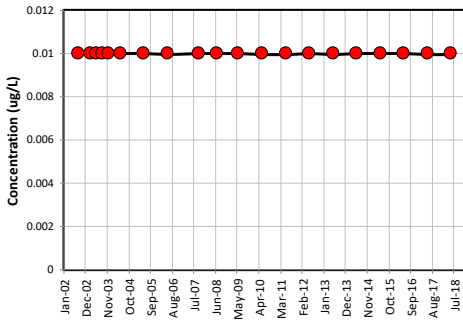
TCE in BW-23-390'



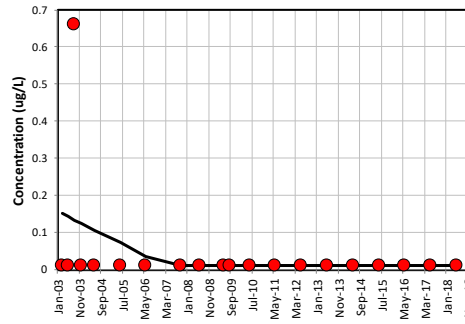
TCE in BW-23-50'



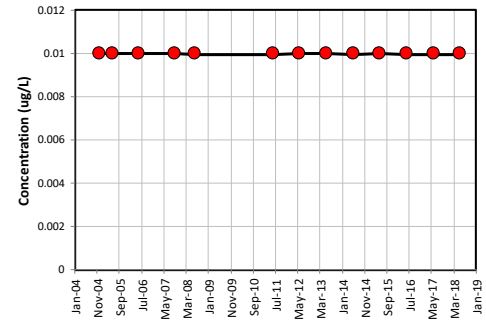
TCE in BW-24-390'



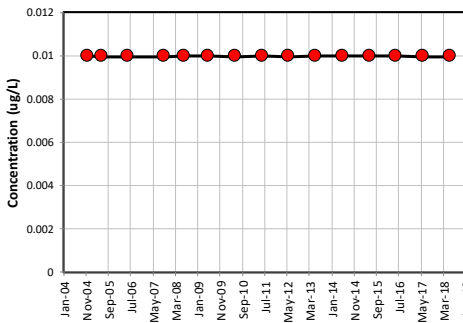
TCE in BW-25



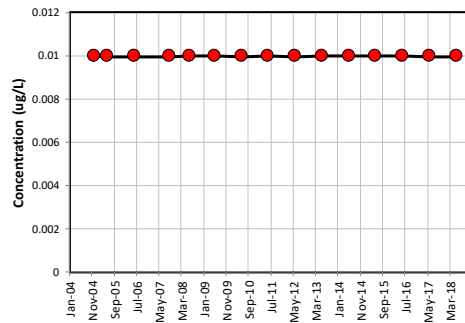
TCE in BW-26-395'



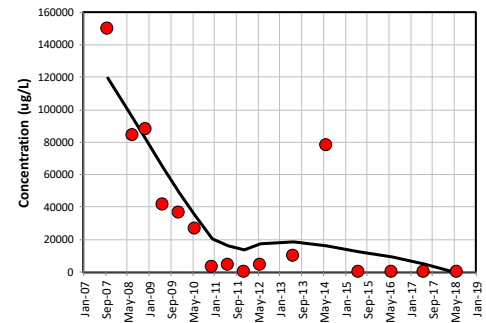
TCE in BW-26-65'



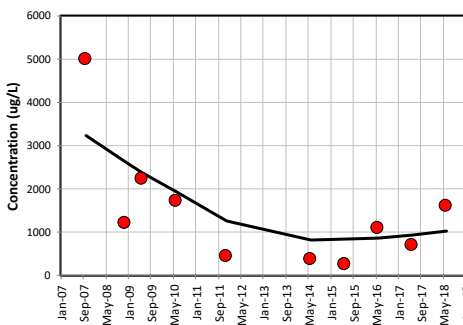
TCE in BW-26-85'



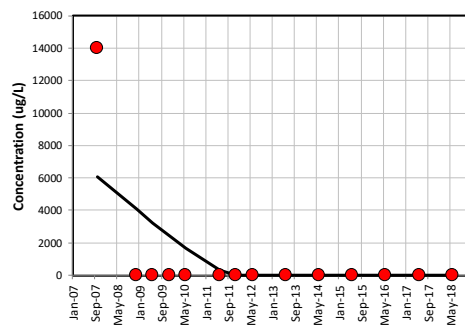
TCE in BW-27



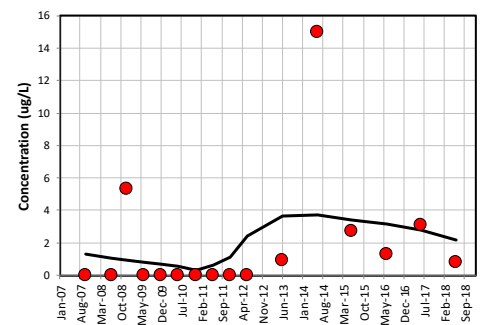
TCE in BW-28



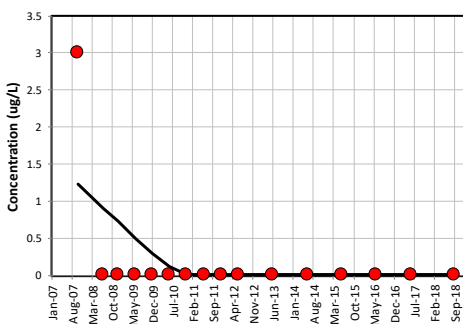
TCE in BW-31



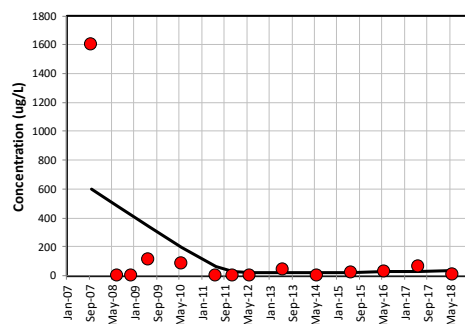
TCE in BW-33



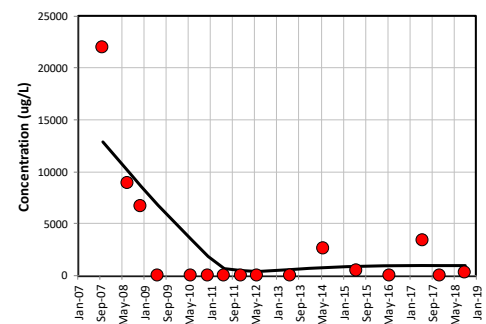
TCE in BW-34



TCE in BW-35

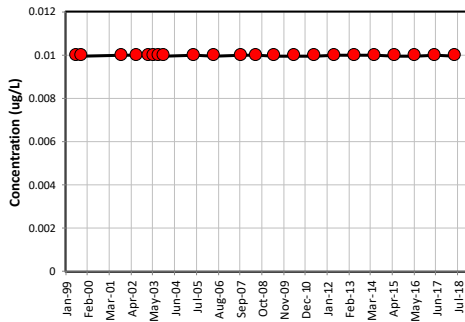


TCE in BW-37

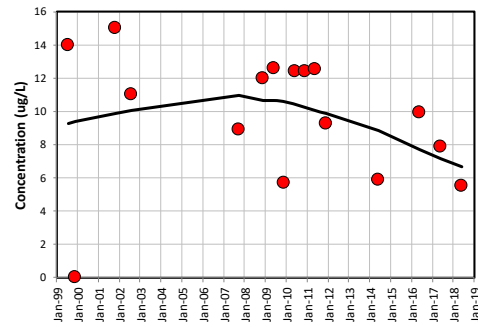




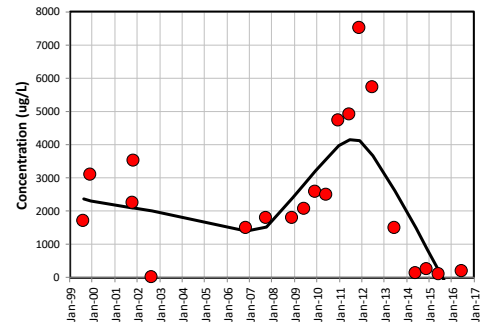
TCE in MW-01



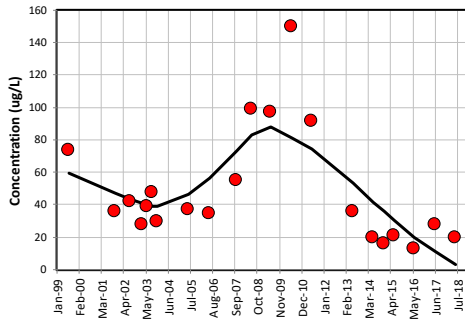
TCE in MW-03



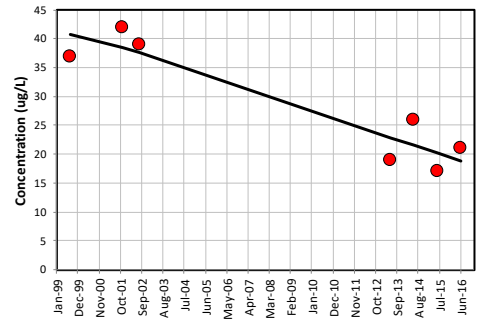
TCE in MW-04



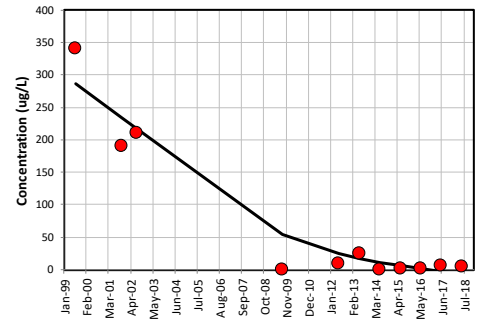
TCE in MW-05



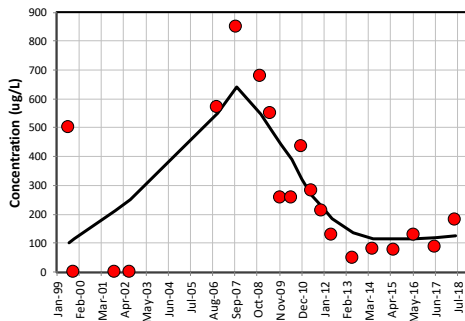
TCE in MW-06



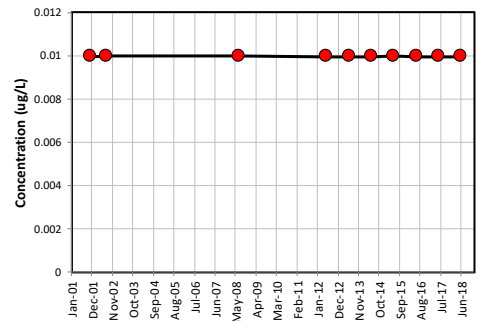
TCE in MW-07



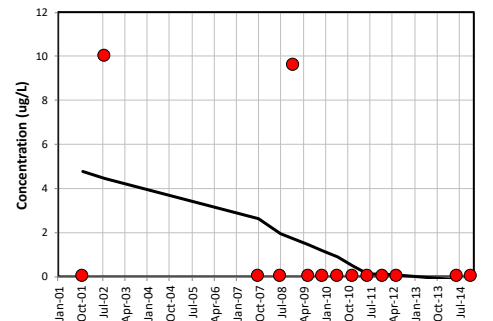
TCE in MW-08



TCE in MW-13



TCE in PZ-01





1,1,1-Trichloroethane Graphs



Table F-3. 1,1,1-Trichloroethane Concentration Trends at Individual Wells Using Mann-Kendall Analysis

THAN Davenport Site, 2040 West River Drive

Well	Total Samples	Monitored Zone	Detection Frequency (%)	Mann-Kendall Result	Mann-Kendall Trend	Stability	Last Sample Date
<b>ISCO Monitoring Wells</b>							
BW-03/BW-03R	23	Shallow Bedrock	100	93.4% (-)	No Trend	Stable	Jun-18
BW-04	17	Shallow Bedrock	65	99.7% (sig -)	Decreasing	NA	Jun-11
BW-05	16	Shallow Bedrock	94	99.9% (sig -)	Decreasing	NA	Jun-18
BW-06	14	Shallow Bedrock	64	96.0% (sig -)	Decreasing	NA	Jun-18
BW-16	17	Shallow Bedrock	100	98.0% (sig -)	Decreasing	NA	Jun-17
BW-23-50'	24	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	Jun-18
BW-23-125'	24	Intermediate Bedrock	75	100.0% (sig -)	Decreasing	NA	Jun-18
BW-23-390'	24	Deep Bedrock	29	NA	>50% ND	NA	Jun-18
BW-27	16	Shallow Bedrock	100	98.6% (sig -)	Decreasing	NA	Jun-18
BW-28	10	Shallow Bedrock	100	98.6% (sig -)	Decreasing	NA	Jun-18
BW-31	14	Shallow Bedrock	100	98.7% (sig -)	Decreasing	NA	Jun-18
BW-33	16	Shallow Bedrock	100	92.5% (-)	No Trend	Stable	Jun-18
BW-34	16	Shallow Bedrock	0	NA	>50% ND	NA	Sep-18
BW-35	14	Shallow Bedrock	100	97.9% (sig -)	Decreasing	NA	Jun-18
BW-37	16	Shallow Bedrock	100	99.6% (sig -)	Decreasing	NA	Sep-18
MW-03	16	Unconsolidated	94	96.4% (sig -)	Decreasing	NA	Jun-18
MW-04	20	Unconsolidated	95	100.0% (sig -)	Decreasing	NA	Jun-16
MW-05	21	Unconsolidated	100	81.8% (+)	No Trend	Not Stable	Jun-18
MW-06	7	Unconsolidated	100	80.9% (-)	No Trend	Stable	Jun-16
MW-08	20	Unconsolidated	20	NA	>50% ND	NA	Jun-18
PZ-01	14	Shallow Bedrock	86	82.0% (-)	No Trend	Not Stable	Dec-14
<b>MNA Monitoring Wells</b>							
BW-01	25	Shallow Bedrock	80	99.8% (sig -)	Decreasing	NA	Jun-18
BW-02	13	Shallow Bedrock	31	NA	>50% ND	NA	Jul-18
BW-09	22	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-11	21	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-13	23	Shallow Bedrock	9	NA	>50% ND	NA	Jun-18
BW-14	12	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	Jul-18
BW-15	12	Shallow Bedrock	25	NA	>50% ND	NA	Jun-18
BW-18	23	Shallow Bedrock	9	NA	>50% ND	NA	Sep-18
BW-19	21	Shallow Bedrock	5	NA	>50% ND	NA	Jun-18
BW-21	20	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-24-390'	20	Deep Bedrock	0	NA	>50% ND	NA	Jun-18
BW-25	20	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-26-65'	15	Intermediate Bedrock	87	95.8% (sig -)	Decreasing	NA	Jun-18
BW-26-85'	15	Intermediate Bedrock	80	92.3% (-)	No Trend	Not Stable	Jun-18
BW-26-395'	13	Deep Bedrock	54	83.2% (-)	No Trend	Not Stable	Jun-18
MW-01	22	Unconsolidated	5	NA	>50% ND	NA	Jun-18
MW-07	11	Unconsolidated	100	100.0% (sig -)	Decreasing	NA	Jun-18
MW-13	10	Unconsolidated	0	NA	>50% ND	NA	Jun-18

## Notes:

% = percent

NA = not applicable

&gt;50% ND = greater than 50 percent nondetects.

sig = significance

- = decreasing

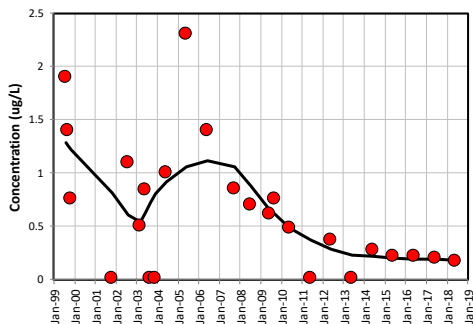
+ = increasing

Trend analysis performed using Mann Kendall single-tailed test at 0.05 significance level.

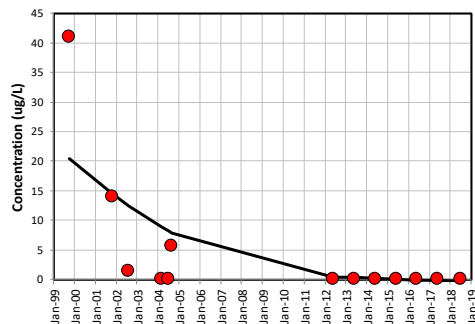
For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than one. The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are high can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.



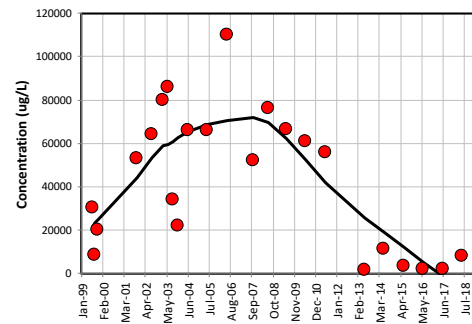
TCA111 in BW-01



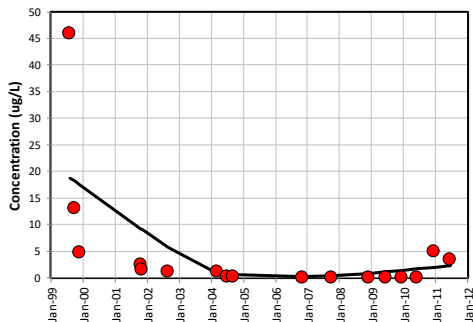
TCA111 in BW-02



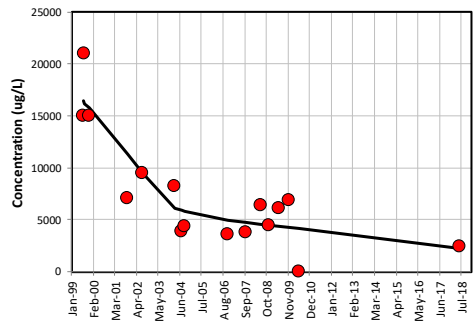
TCA111 in BW-03/BW-03R



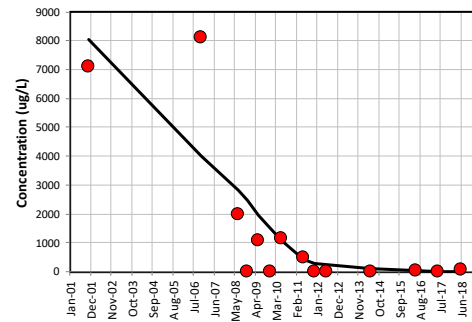
TCA111 in BW-04



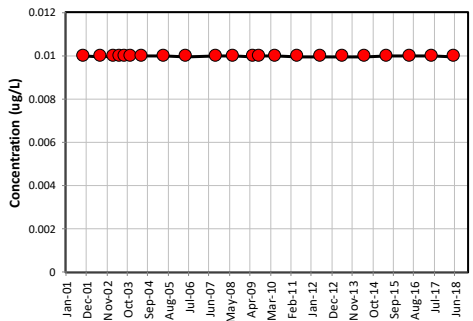
TCA111 in BW-05



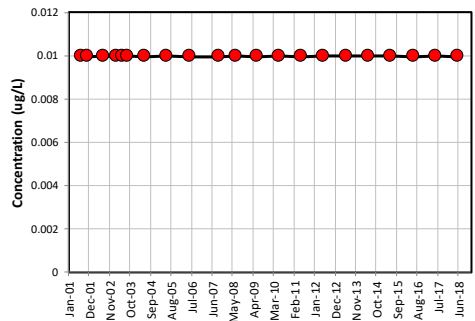
TCA111 in BW-06



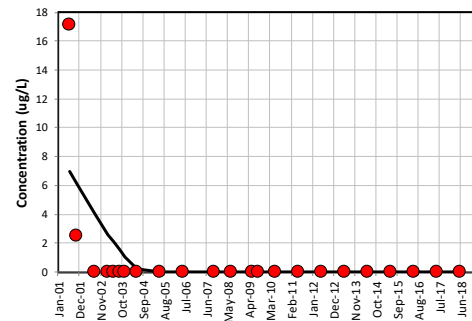
TCA111 in BW-09



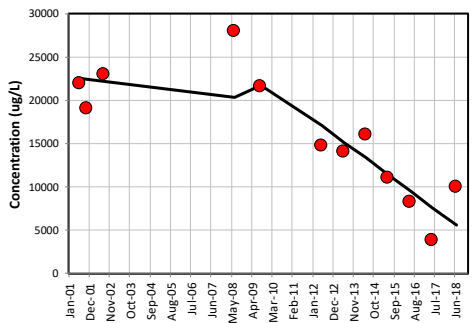
TCA111 in BW-11



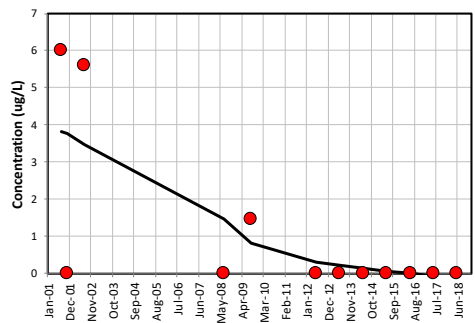
TCA111 in BW-13



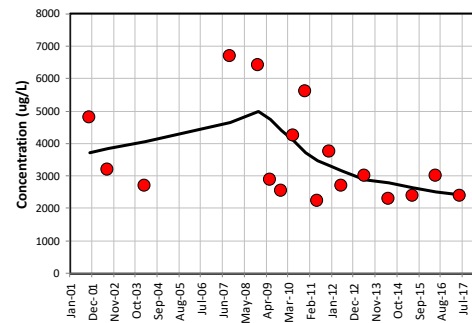
TCA111 in BW-14



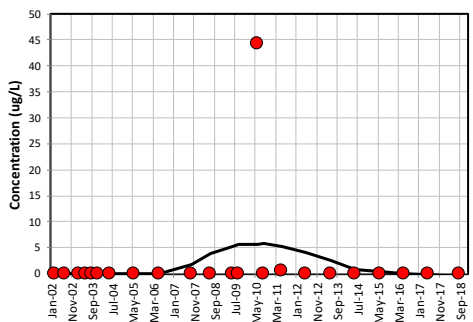
TCA111 in BW-15



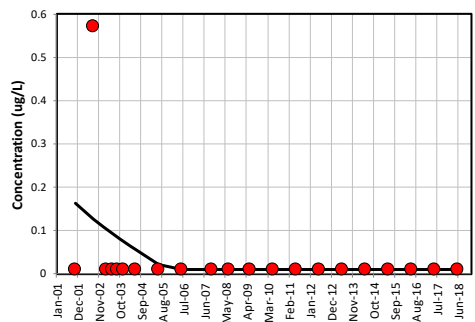
TCA111 in BW-16



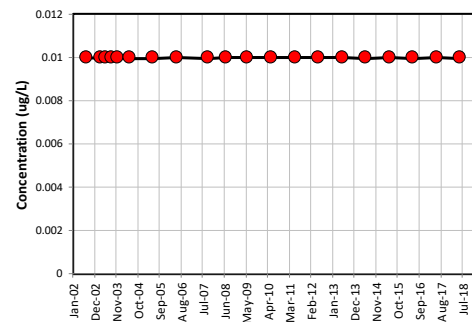
TCA111 in BW-18



TCA111 in BW-19

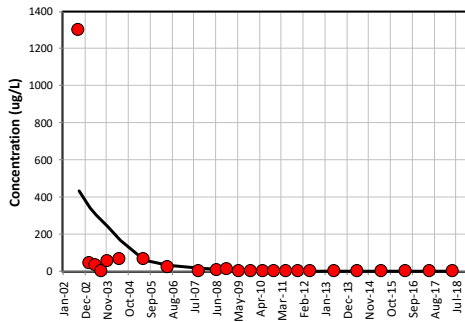


TCA111 in BW-21

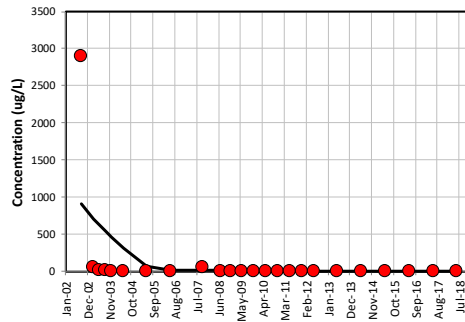




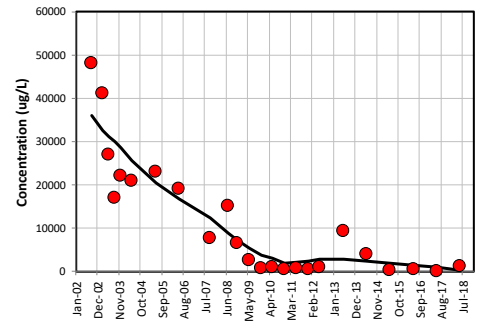
TCA111 in BW-23-125'



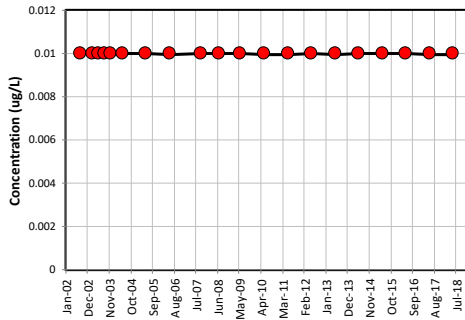
TCA111 in BW-23-390'



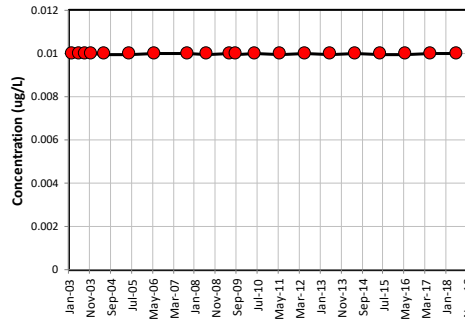
TCA111 in BW-23-50'



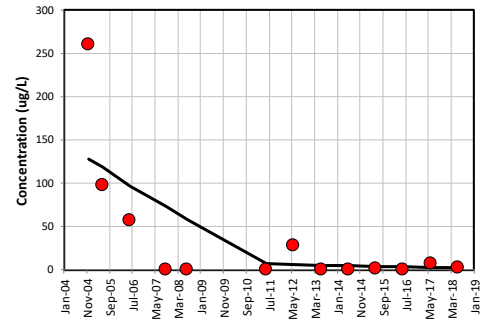
TCA111 in BW-24-390'



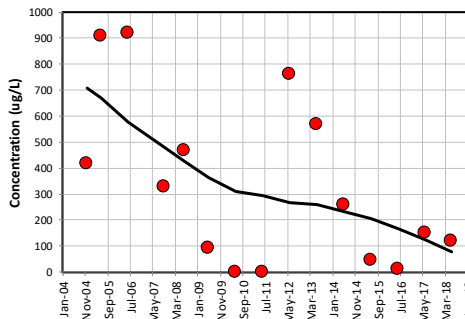
TCA111 in BW-25



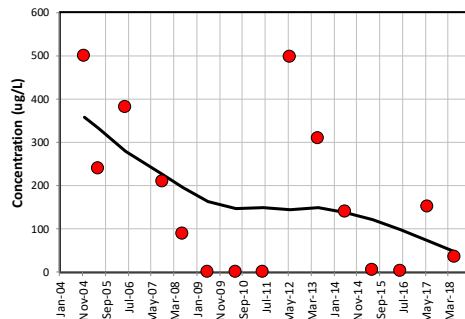
TCA111 in BW-26-395'



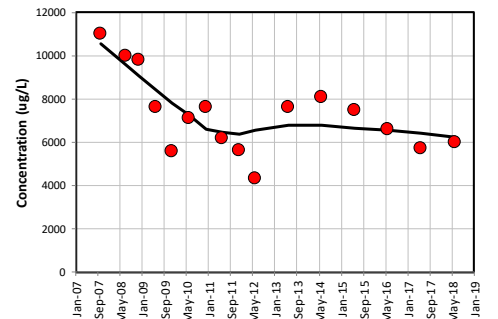
TCA111 in BW-26-65'



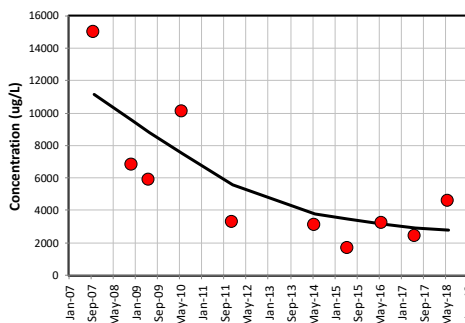
TCA111 in BW-26-85'



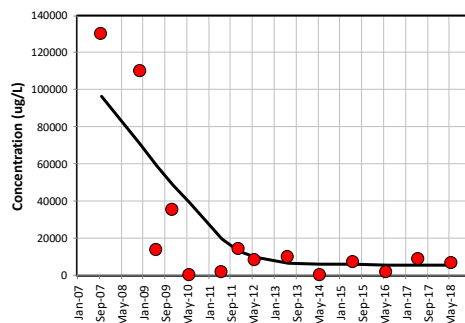
TCA111 in BW-27



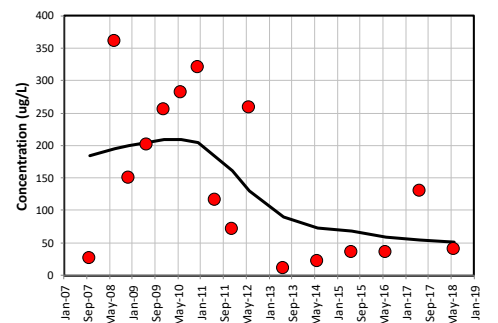
TCA111 in BW-28



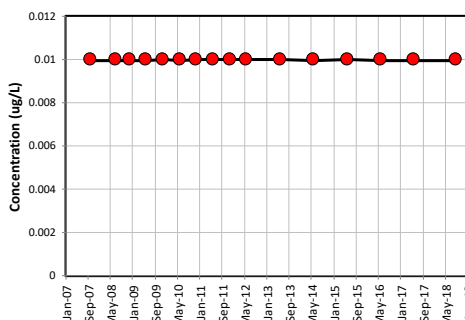
TCA111 in BW-31



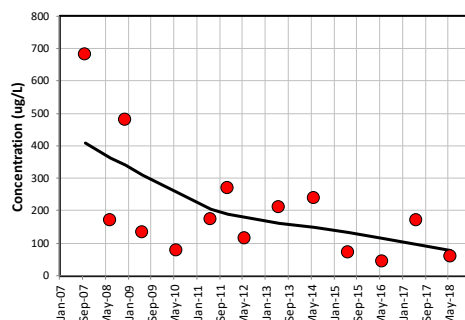
TCA111 in BW-33



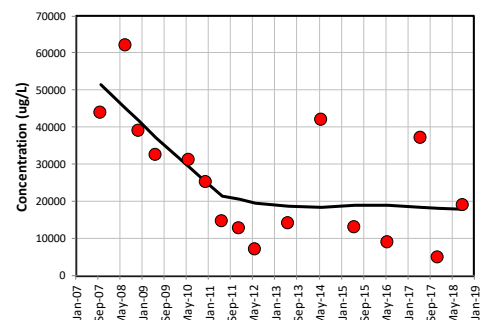
TCA111 in BW-34



TCA111 in BW-35

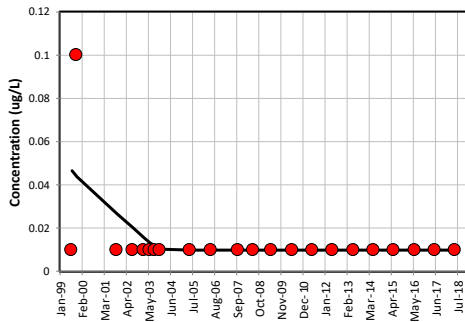


TCA111 in BW-37

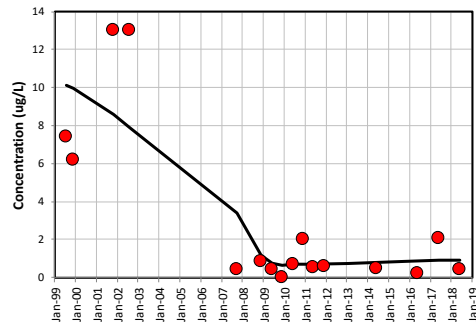




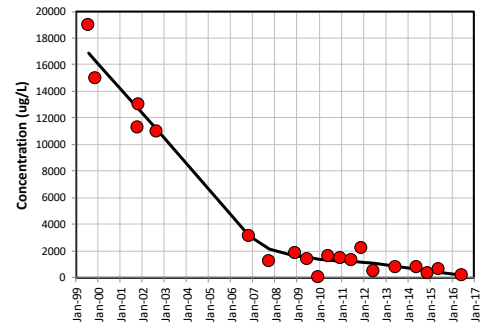
TCA111 in MW-01



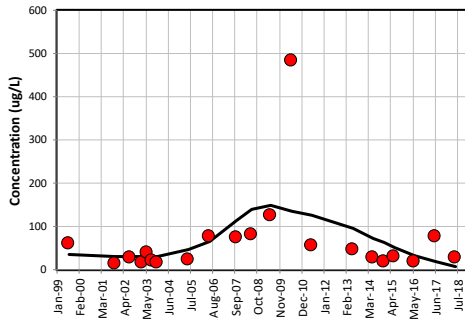
TCA111 in MW-03



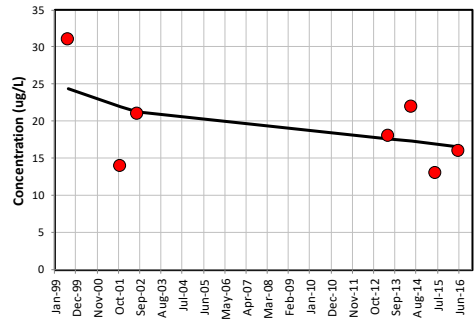
TCA111 in MW-04



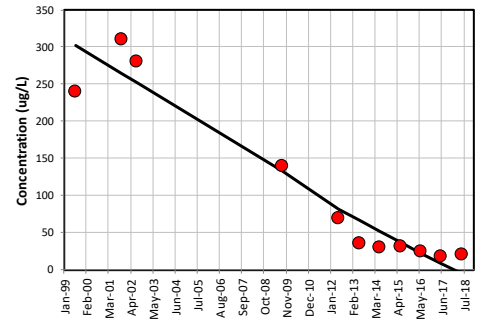
TCA111 in MW-05



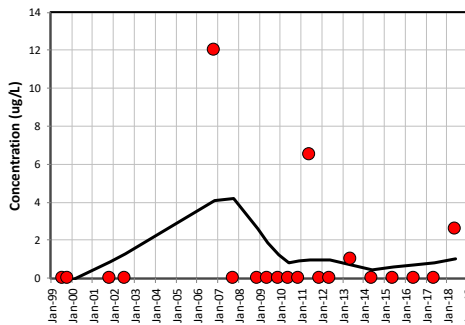
TCA111 in MW-06



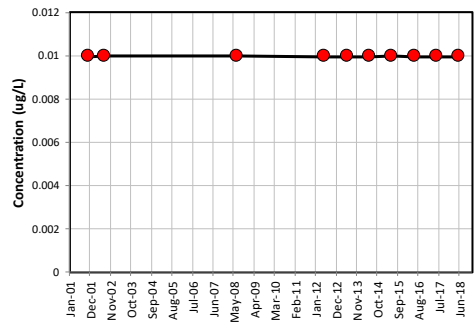
TCA111 in MW-07



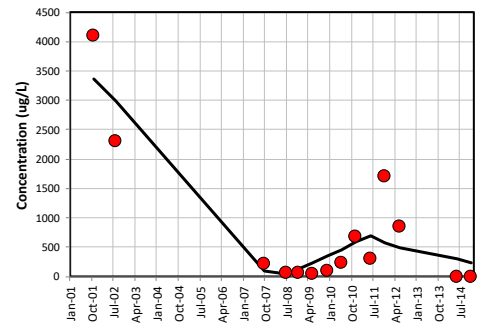
TCA111 in MW-08



TCA111 in MW-13



TCA111 in PZ-01





## Methylene Chloride Graphs



Table F-4. Methylene Chloride Concentration Trends at Individual Wells Using Mann-Kendall Analysis

THAN Davenport Site, 2040 West River Drive

Well	Total Samples	Monitored Zone	Detection Frequency (%)	Mann-Kendall Result	Mann-Kendall Trend	Stability	Last Sample Date
<b>ISCO Monitoring Wells</b>							
BW-03/BW-03R	23	Shallow Bedrock	96	99.2% (sig -)	Decreasing	NA	Jun-18
BW-04	17	Shallow Bedrock	35	NA	>50% ND	NA	Jun-11
BW-05	16	Shallow Bedrock	38	NA	>50% ND	NA	Jun-18
BW-06	14	Shallow Bedrock	36	NA	>50% ND	NA	Jun-18
BW-16	17	Shallow Bedrock	18	NA	>50% ND	NA	Jun-17
BW-23-50'	24	Shallow Bedrock	58	100.0% (sig -)	Decreasing	NA	Jun-18
BW-23-125'	24	Intermediate Bedrock	13	NA	>50% ND	NA	Jun-18
BW-23-390'	24	Deep Bedrock	42	NA	>50% ND	NA	Jun-18
BW-27	16	Shallow Bedrock	69	99.9% (sig -)	Decreasing	NA	Jun-18
BW-28	10	Shallow Bedrock	70	53.5% (+)	No Trend	Not Stable	Jun-18
BW-31	14	Shallow Bedrock	29	NA	>50% ND	NA	Jun-18
BW-33	16	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-34	16	Shallow Bedrock	6	NA	>50% ND	NA	Sep-18
BW-35	14	Shallow Bedrock	21	NA	>50% ND	NA	Jun-18
BW-37	16	Shallow Bedrock	100	82.8% (-)	No Trend	Not Stable	Sep-18
MW-03	16	Unconsolidated	6	NA	>50% ND	NA	Jun-18
MW-04	20	Unconsolidated	25	NA	>50% ND	NA	Jun-16
MW-05	21	Unconsolidated	5	NA	>50% ND	NA	Jun-18
MW-06	7	Unconsolidated	0	NA	>50% ND	NA	Jun-16
MW-08	20	Unconsolidated	25	NA	>50% ND	NA	Jun-18
PZ-01	14	Shallow Bedrock	29	NA	>50% ND	NA	Dec-14
<b>MNA Monitoring Wells</b>							
BW-01	25	Shallow Bedrock	4	NA	>50% ND	NA	Jun-18
BW-02	13	Shallow Bedrock	23	NA	>50% ND	NA	Jul-18
BW-09	22	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-11	21	Shallow Bedrock	5	NA	>50% ND	NA	Jun-18
BW-13	23	Shallow Bedrock	9	NA	>50% ND	NA	Jun-18
BW-14	12	Shallow Bedrock	33	NA	>50% ND	NA	Jul-18
BW-15	12	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-18	23	Shallow Bedrock	4	NA	>50% ND	NA	Sep-18
BW-19	21	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-21	20	Intermediate Bedrock	0	NA	>50% ND	NA	Jun-18
BW-24-390'	20	Deep Bedrock	0	NA	>50% ND	NA	Jun-18
BW-25	20	Shallow Bedrock	0	NA	>50% ND	NA	Jun-18
BW-26-65'	15	Intermediate Bedrock	33	NA	>50% ND	NA	Jun-18
BW-26-85'	15	Intermediate Bedrock	20	NA	>50% ND	NA	Jun-18
BW-26-395'	13	Deep Bedrock	15	NA	>50% ND	NA	Jun-18
MW-01	22	Unconsolidated	0	NA	>50% ND	NA	Jun-18
MW-07	11	Unconsolidated	9	NA	>50% ND	NA	Jun-18
MW-13	10	Unconsolidated	0	NA	>50% ND	NA	Jun-18

Notes:

% = percent

&gt;50% ND = greater than 50 percent nondetects.

- = decreasing

NA = not applicable

sig = significance

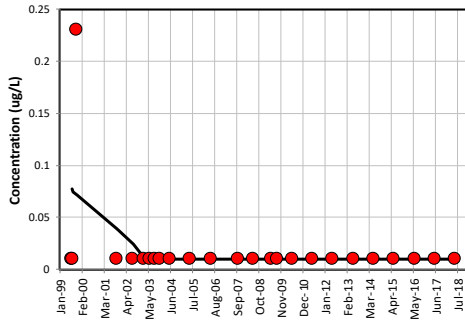
+ = increasing

Trend analysis performed using Mann Kendall single-tailed test at 0.05 significance level.

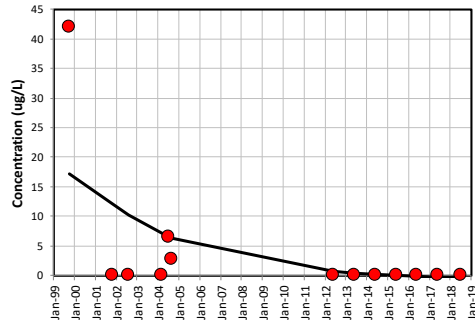
For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than one. The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are high can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.



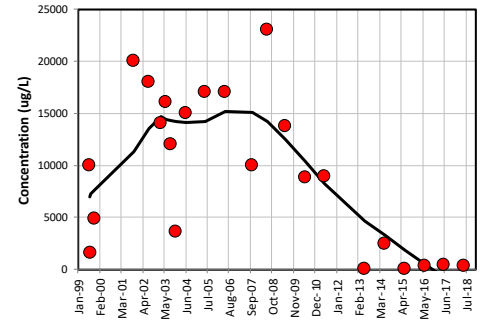
MTLNCL in BW-01



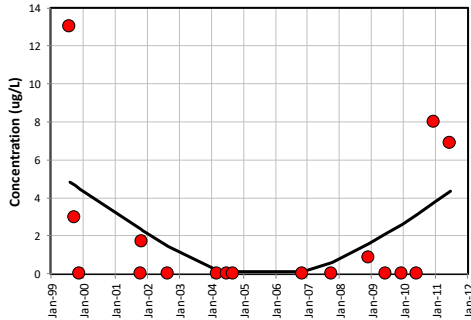
MTLNCL in BW-02



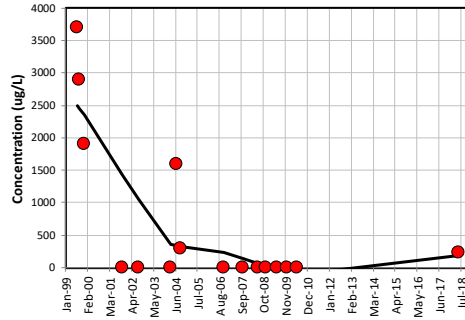
MTLNCL in BW-03/BW-03R



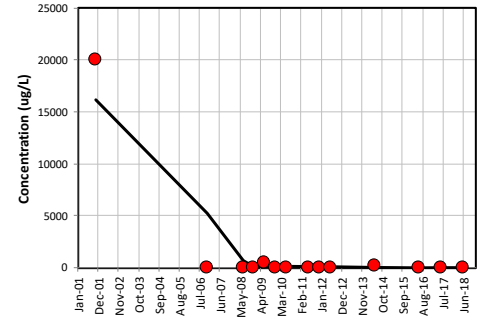
MTLNCL in BW-04



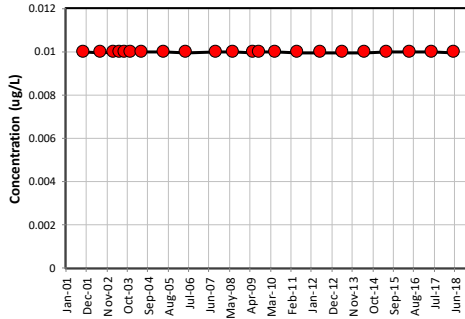
MTLNCL in BW-05



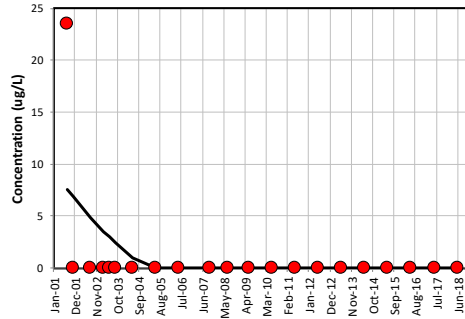
MTLNCL in BW-06



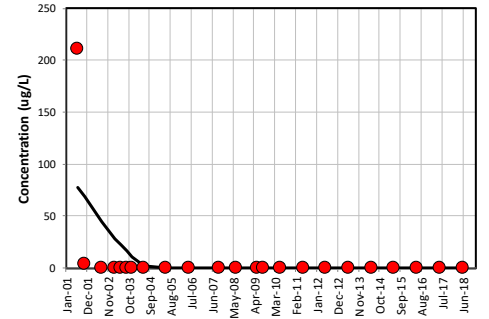
MTLNCL in BW-09



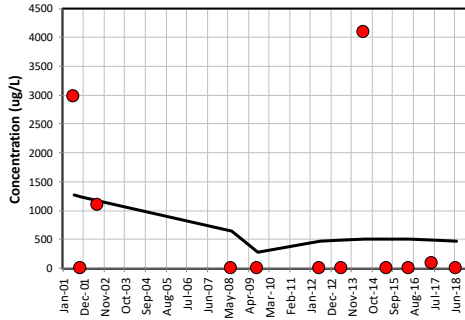
MTLNCL in BW-11



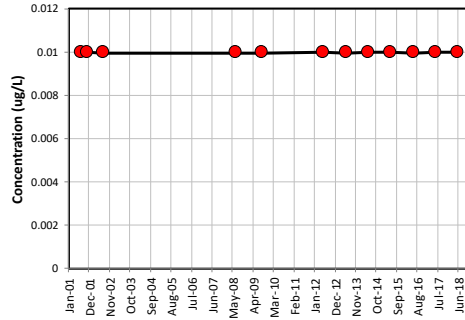
MTLNCL in BW-13



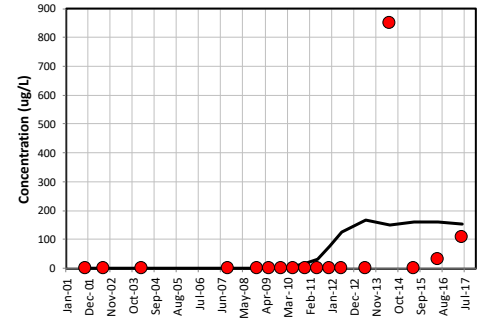
MTLNCL in BW-14



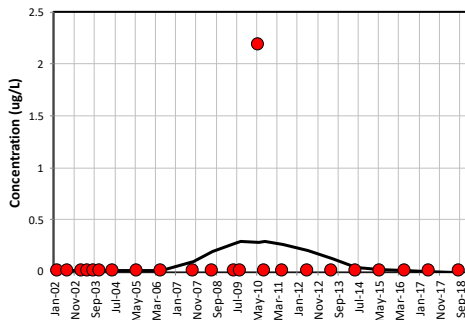
MTLNCL in BW-15



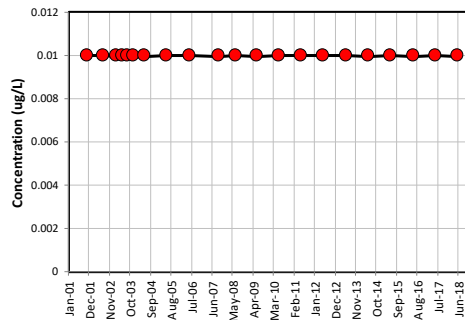
MTLNCL in BW-16



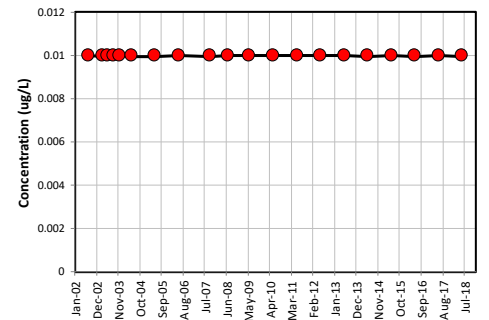
MTLNCL in BW-18



MTLNCL in BW-19

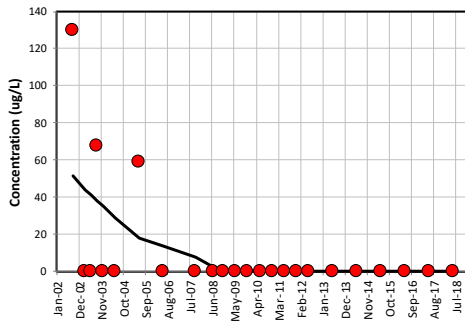


MTLNCL in BW-21

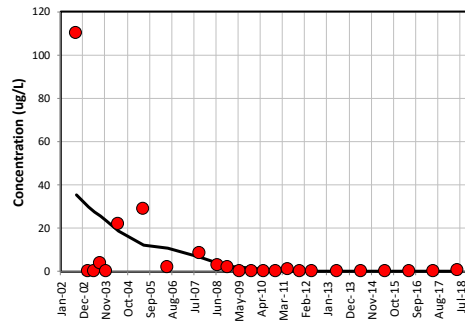




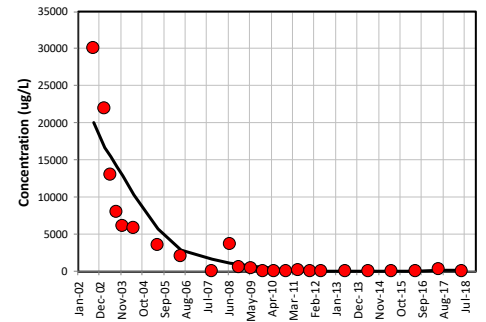
MTLNCL in BW-23-125'



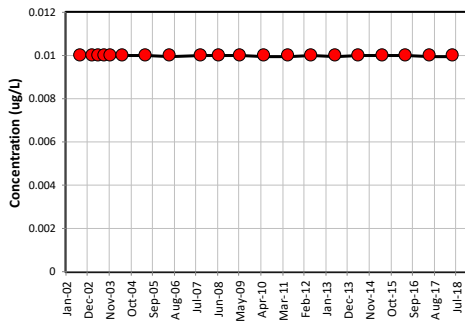
MTLNCL in BW-23-390'



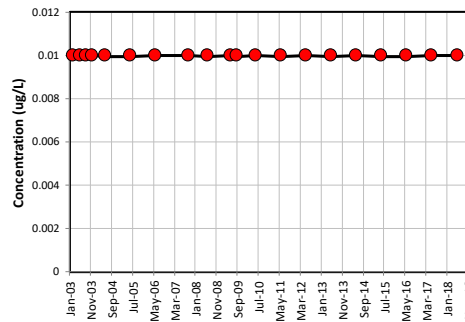
MTLNCL in BW-23-50'



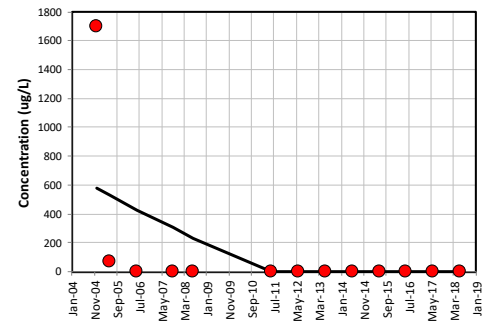
MTLNCL in BW-24-390'



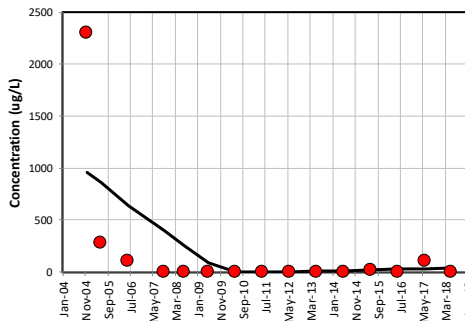
MTLNCL in BW-25



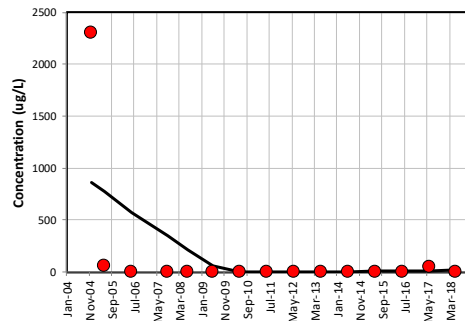
MTLNCL in BW-26-395'



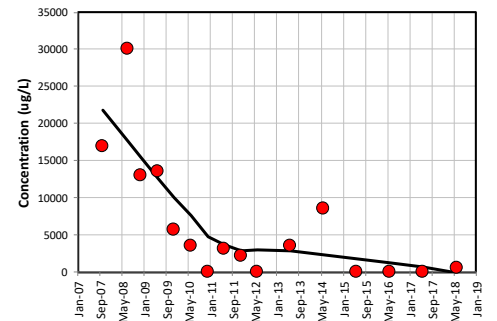
MTLNCL in BW-26-65'



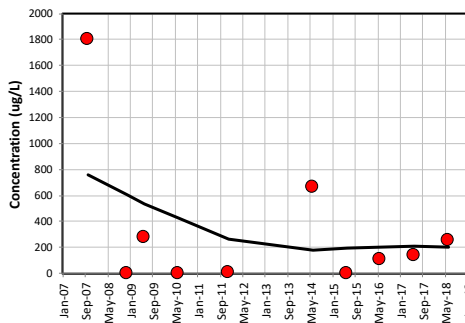
MTLNCL in BW-26-85'



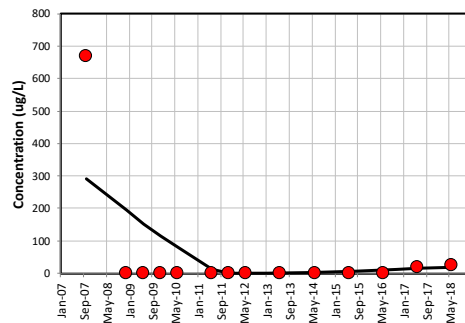
MTLNCL in BW-27



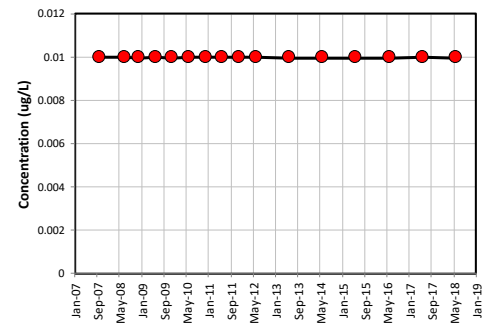
MTLNCL in BW-28



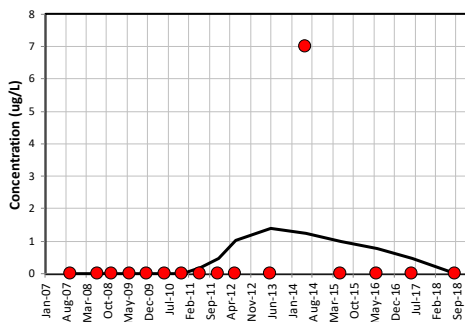
MTLNCL in BW-31



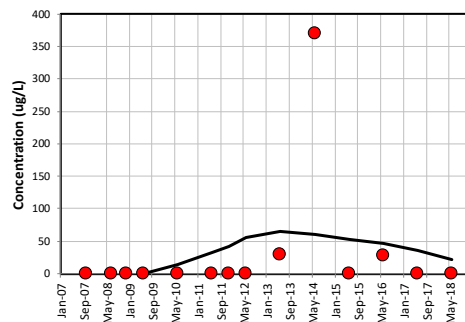
MTLNCL in BW-33



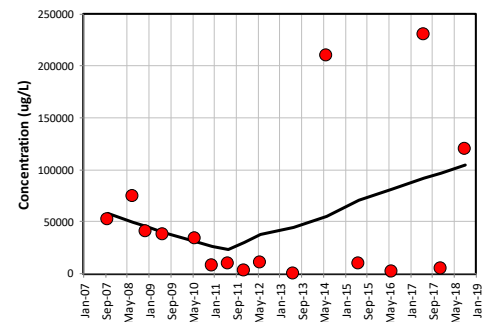
MTLNCL in BW-34



MTLNCL in BW-35

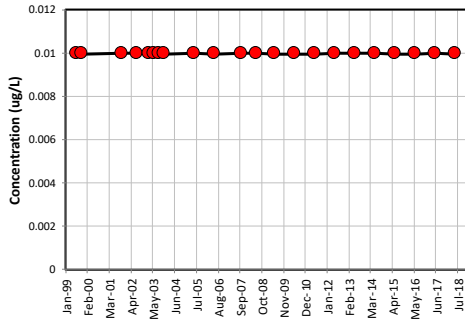


MTLNCL in BW-37

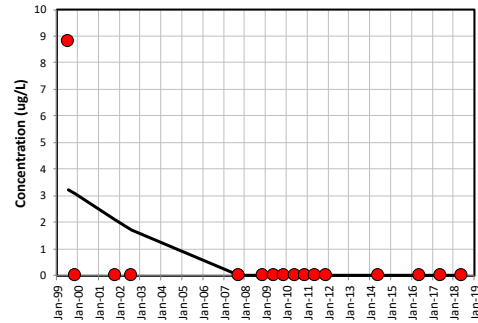




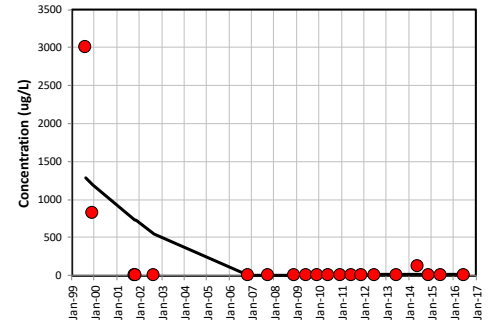
MTLNCL in MW-01



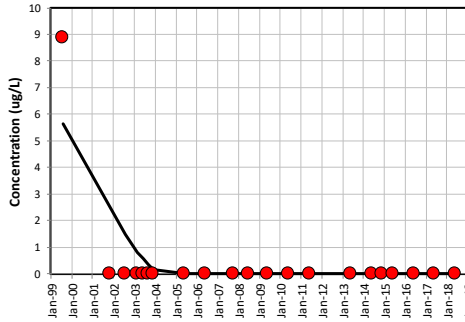
MTLNCL in MW-03



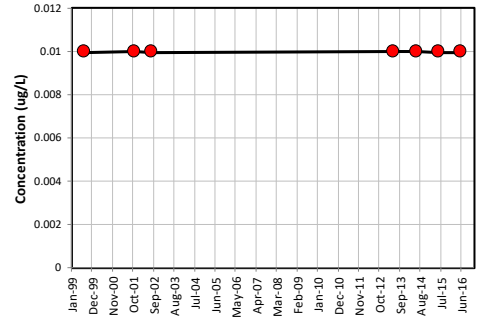
MTLNCL in MW-04



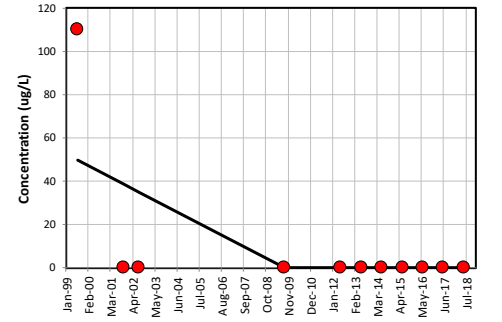
MTLNCL in MW-05



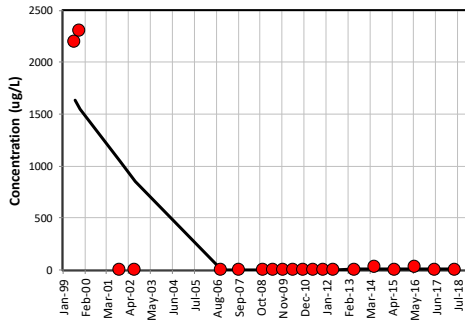
MTLNCL in MW-06



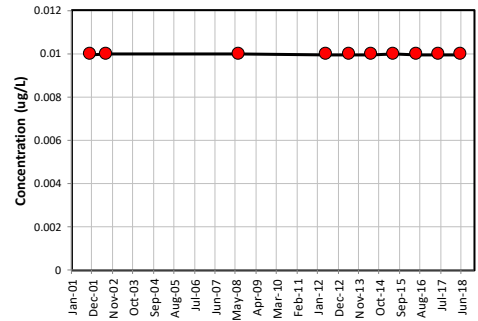
MTLNCL in MW-07



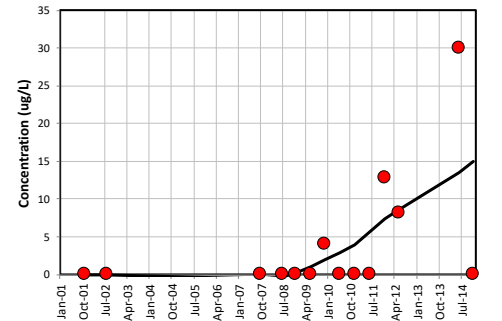
MTLNCL in MW-08



MTLNCL in MW-13



MTLNCL in PZ-01





Cis-1,2-dichloroethene Graphs



Table F-5. Cis-1,2-Dichloroethene Concentration Trends at Individual Wells Using Mann-Kendall Analysis

THAN Davenport Site, 2040 West River Drive

Well	Total Samples	Monitored Zone	Detection Frequency (%)	Mann-Kendall Result	Mann-Kendall Trend	Stability	Last Sample Date
<b>ISCO Monitoring Wells</b>							
BW-03/BW-03R	23	Shallow Bedrock	100	74.5% (+)	No Trend	Stable	Jun-18
BW-04	17	Shallow Bedrock	100	99.7% (sig -)	Decreasing	NA	Jun-11
BW-05	16	Shallow Bedrock	100	72.1% (-)	No Trend	Stable	Jun-18
BW-06	14	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	Jun-18
BW-16	17	Shallow Bedrock	100	91.3% (+)	No Trend	Stable	Jun-17
BW-23-50'	24	Shallow Bedrock	100	100.0% (sig -)	Decreasing	NA	Jun-18
BW-23-125'	24	Intermediate Bedrock	100	100.0% (sig -)	Decreasing	NA	Jun-18
BW-23-390'	24	Deep Bedrock	100	100.0% (sig -)	Decreasing	NA	Jun-18
BW-27	16	Shallow Bedrock	100	99.9% (sig +)	Increasing	NA	Jun-18
BW-28	10	Shallow Bedrock	100	70.0% (+)	No Trend	Stable	Jun-18
BW-31	14	Shallow Bedrock	100	99.0% (sig -)	Decreasing	NA	Jun-18
BW-33	16	Shallow Bedrock	100	96.8% (sig -)	Decreasing	NA	Jun-18
BW-34	16	Shallow Bedrock	100	99.3% (sig -)	Decreasing	NA	Sep-18
BW-35	14	Shallow Bedrock	100	80.6% (-)	No Trend	Stable	Jun-18
BW-37	16	Shallow Bedrock	100	99.7% (sig -)	Decreasing	NA	Sep-18
MW-03	16	Unconsolidated	100	96.0% (sig -)	Decreasing	NA	Jun-18
MW-04	20	Unconsolidated	90	81.8% (+)	No Trend	Not Stable	Jun-16
MW-05	21	Unconsolidated	100	50.0% (+)	No Trend	Not Stable	Jun-18
MW-06	7	Unconsolidated	100	98.5% (sig -)	Decreasing	NA	Jun-16
MW-08	20	Unconsolidated	100	100.0% (sig -)	Decreasing	NA	Jun-18
PZ-01	14	Shallow Bedrock	100	99.3% (sig -)	Decreasing	NA	Dec-14
<b>MNA Monitoring Wells</b>							
BW-01	25	Shallow Bedrock	48	NA	>50% ND	NA	Jun-18
BW-02	13	Shallow Bedrock	100	97.9% (sig -)	Decreasing	NA	Jul-18
BW-09	22	Shallow Bedrock	23	NA	>50% ND	NA	Jun-18
BW-11	21	Shallow Bedrock	95	99.6% (sig -)	Decreasing	NA	Jun-18
BW-13	23	Shallow Bedrock	35	NA	>50% ND	NA	Jun-18
BW-14	12	Shallow Bedrock	100	55.3% (-)	No Trend	Stable	Jul-18
BW-15	12	Shallow Bedrock	100	99.6% (sig -)	Decreasing	NA	Jun-18
BW-18	23	Shallow Bedrock	9	NA	>50% ND	NA	Sep-18
BW-19	21	Shallow Bedrock	86	100.0% (sig -)	Decreasing	NA	Jun-18
BW-21	20	Intermediate Bedrock	35	NA	>50% ND	NA	Jun-18
BW-24-390'	20	Deep Bedrock	35	NA	>50% ND	NA	Jun-18
BW-25	20	Shallow Bedrock	25	NA	>50% ND	NA	Jun-18
BW-26-65'	15	Intermediate Bedrock	100	59.6% (-)	No Trend	Not Stable	Jun-18
BW-26-85'	15	Intermediate Bedrock	100	88.0% (-)	No Trend	Stable	Jun-18
BW-26-395'	13	Deep Bedrock	92	98.9% (sig -)	Decreasing	NA	Jun-18
MW-01	22	Unconsolidated	0	NA	>50% ND	NA	Jun-18
MW-07	11	Unconsolidated	100	99.9% (sig -)	Decreasing	NA	Jun-18
MW-13	10	Unconsolidated	10	NA	>50% ND	NA	Jun-18

Notes:

% = percent

&gt;50% ND = greater than 50 percent nondetects.

- = decreasing

NA = not applicable

sig = significance

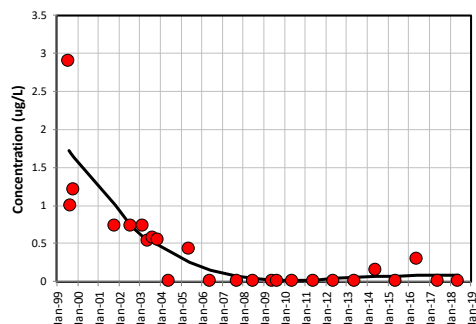
+ = increasing

Trend analysis performed using Mann Kendall single-tailed test at 0.05 significance level.

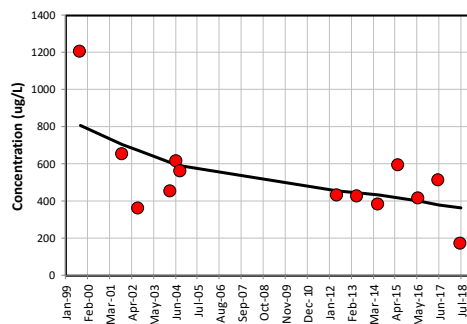
For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than one. The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are high can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.



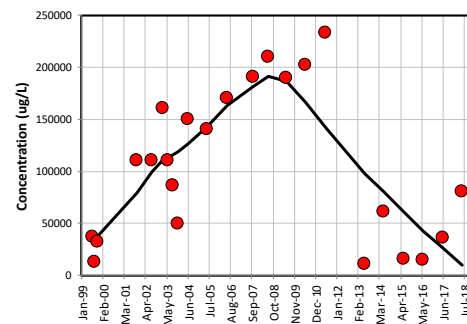
DCE12C in BW-01



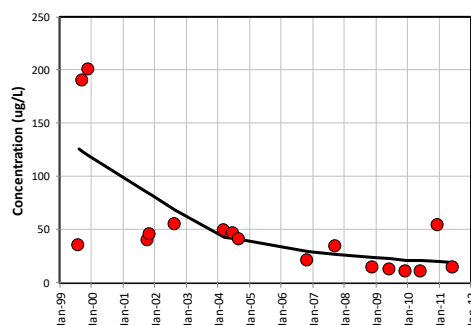
DCE12C in BW-02



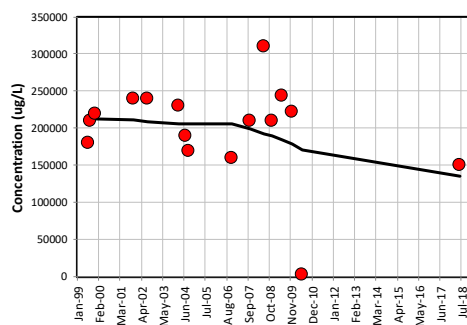
DCE12C in BW-03/BW-03R



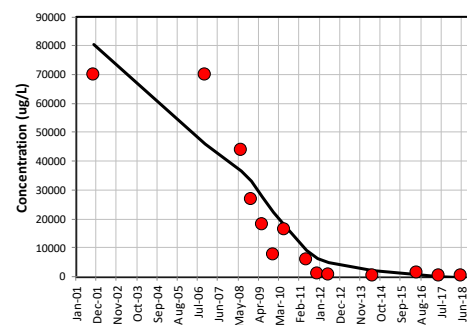
DCE12C in BW-04



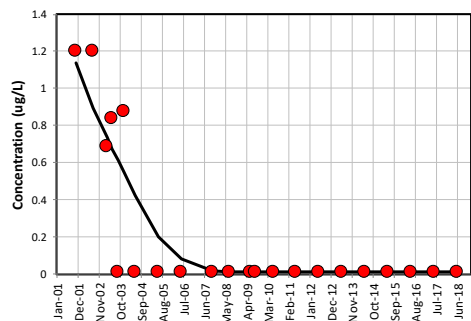
DCE12C in BW-05



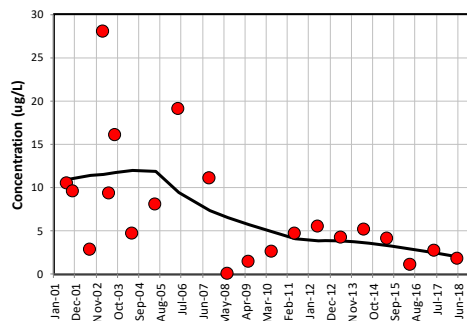
DCE12C in BW-06



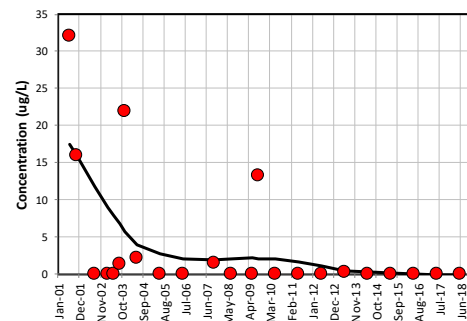
DCE12C in BW-09



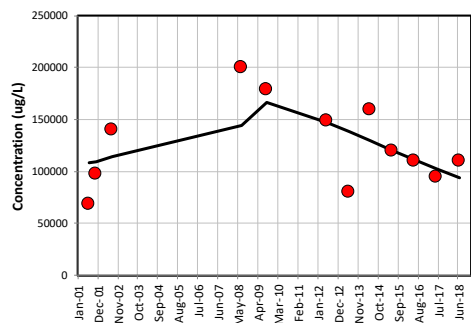
DCE12C in BW-11



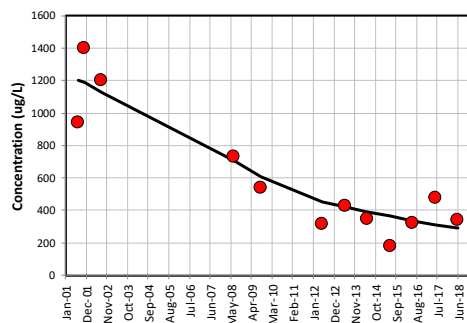
DCE12C in BW-13



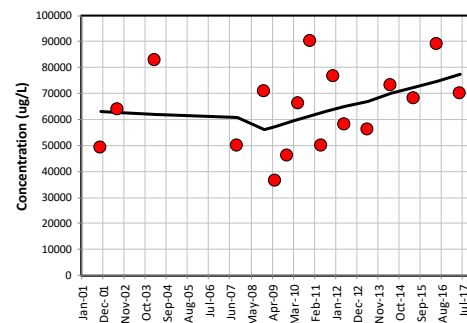
DCE12C in BW-14



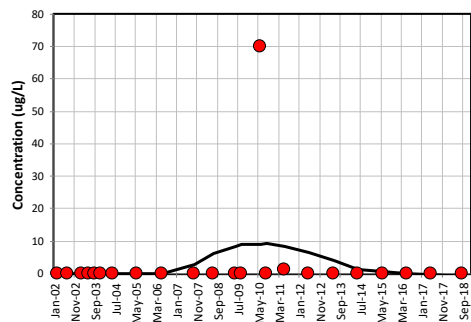
DCE12C in BW-15



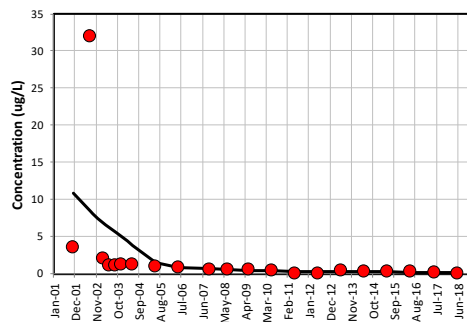
DCE12C in BW-16



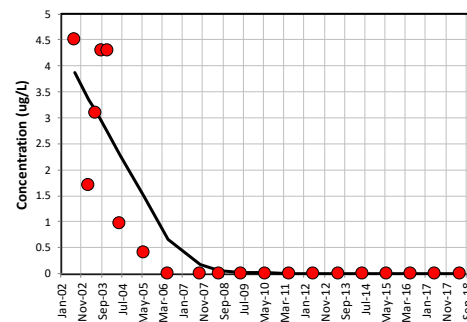
DCE12C in BW-18



DCE12C in BW-19

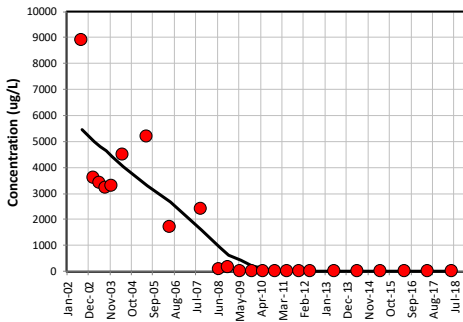


DCE12C in BW-21

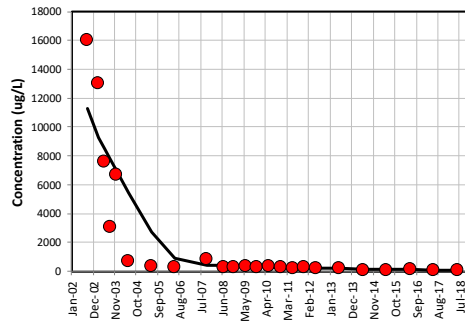




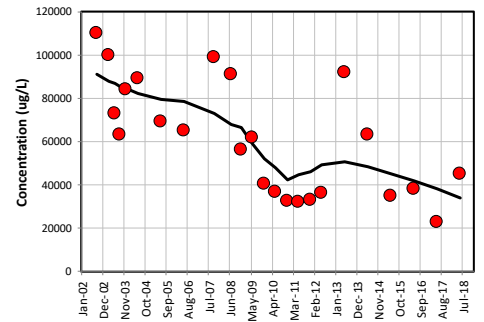
DCE12C in BW-23-125'



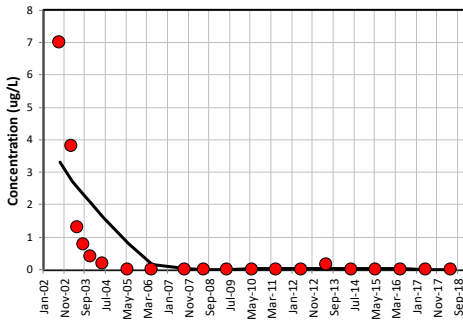
DCE12C in BW-23-390'



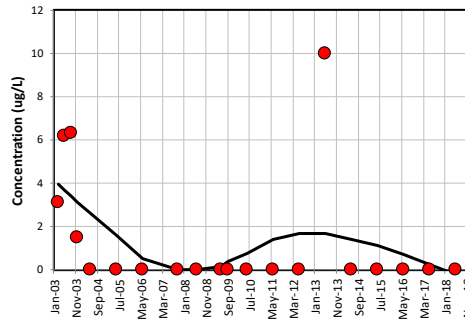
DCE12C in BW-23-50'



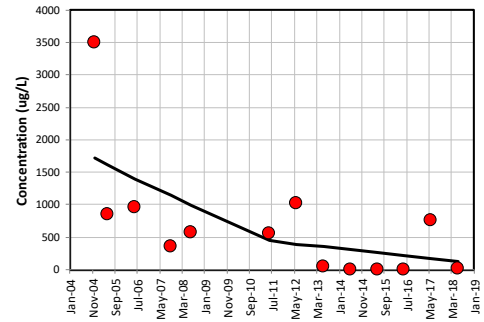
DCE12C in BW-24-390'



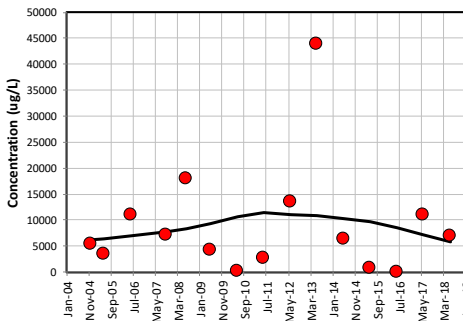
DCE12C in BW-25



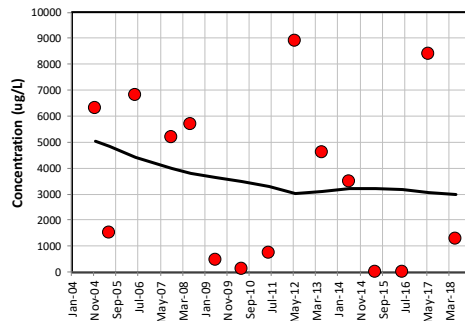
DCE12C in BW-26-395'



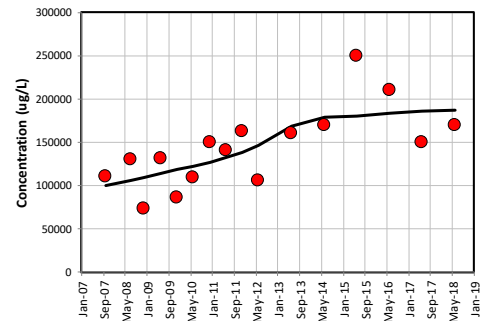
DCE12C in BW-26-65'



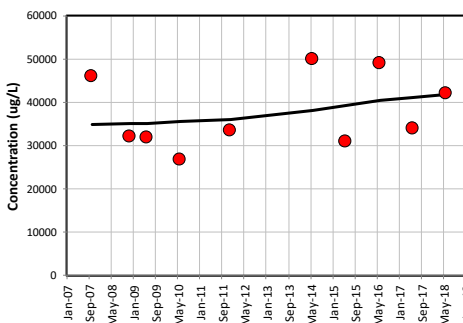
DCE12C in BW-26-85'



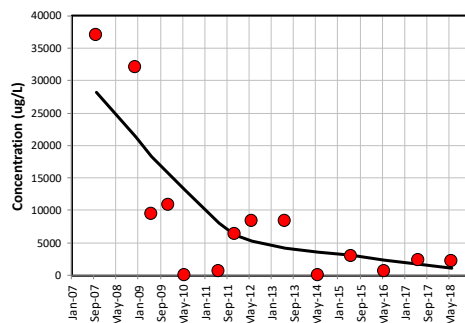
DCE12C in BW-27



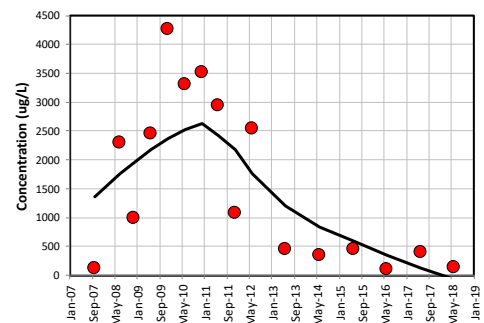
DCE12C in BW-28



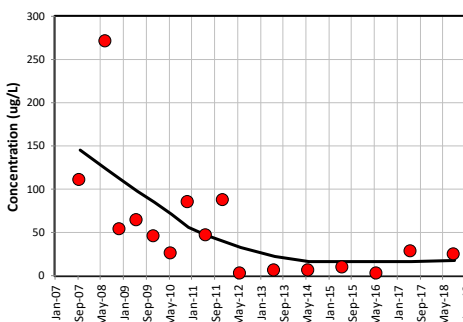
DCE12C in BW-31



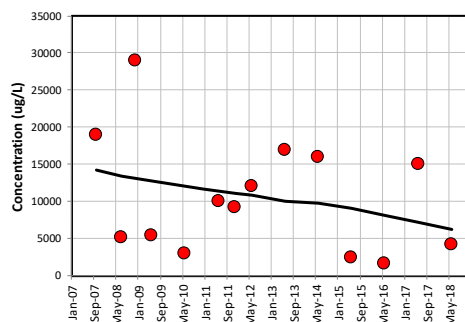
DCE12C in BW-33



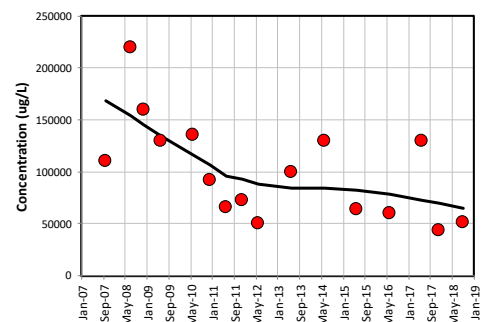
DCE12C in BW-34



DCE12C in BW-35

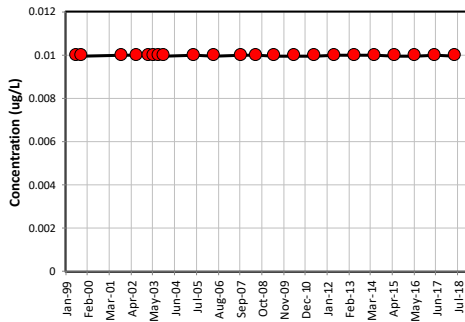


DCE12C in BW-37

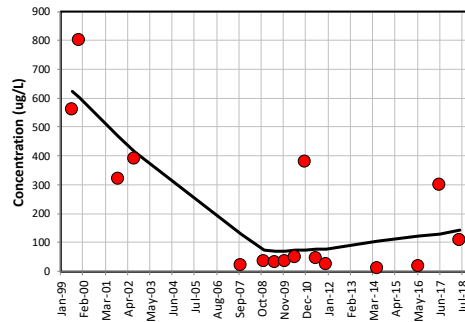




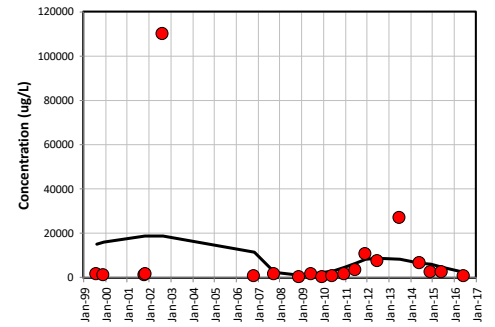
DCE12C in MW-01



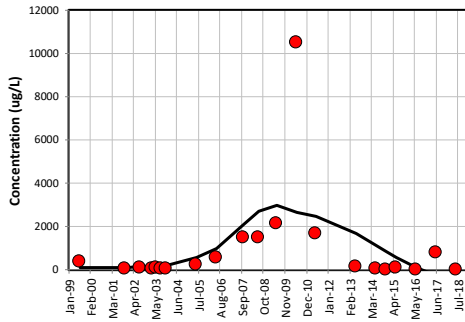
DCE12C in MW-03



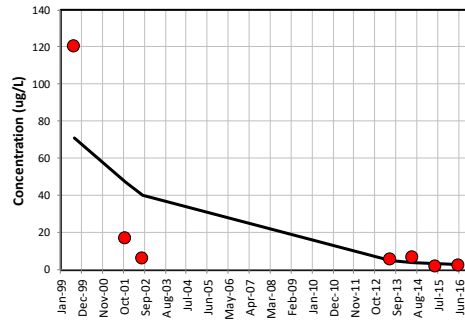
DCE12C in MW-04



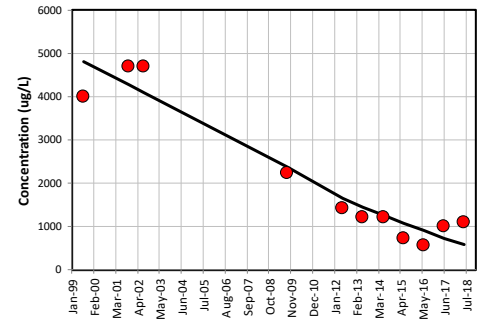
DCE12C in MW-05



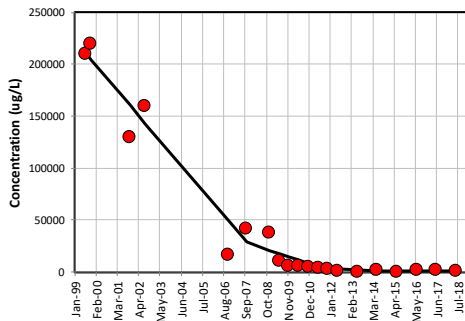
DCE12C in MW-06



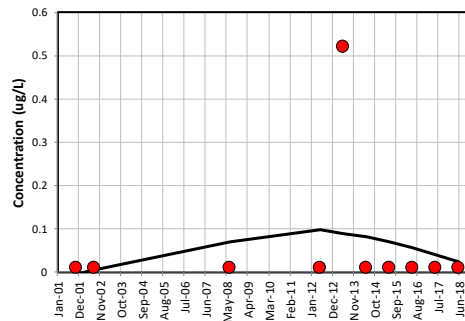
DCE12C in MW-07



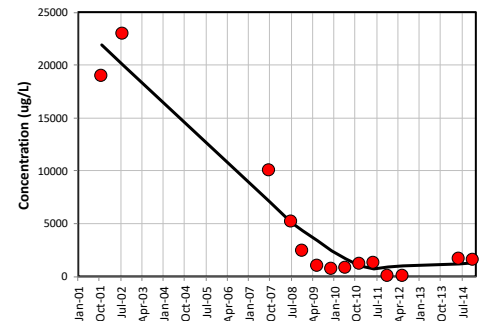
DCE12C in MW-08



DCE12C in MW-13



DCE12C in PZ-01





## Vinyl Chloride Graphs



Table F-6. Vinyl Chloride Concentration Trends at Individual Wells Using Mann-Kendall Analysis

THAN Davenport Site, 2040 West River Drive

Well	Total Samples	Monitored Zone	Detection Frequency (%)	Mann-Kendall Result	Mann-Kendall Trend	Stability	Last Sample Date
<b>ISCO Monitoring Wells</b>							
BW-03/BW-03R	23	Shallow Bedrock	96	71.0% (+)	No Trend	Stable	Jun-18
BW-04	17	Shallow Bedrock	59	91.3% (+)	No Trend	Not Stable	Jun-11
BW-05	16	Shallow Bedrock	94	86.0% (+)	No Trend	Stable	Jun-18
BW-06	14	Shallow Bedrock	100	99.9% (sig -)	Decreasing	NA	Jun-18
BW-16	17	Shallow Bedrock	100	87.6% (-)	No Trend	Stable	Jun-17
BW-23-50'	24	Shallow Bedrock	100	97.3% (sig +)	Increasing	NA	Jun-18
BW-23-125'	24	Intermediate Bedrock	83	100.0% (sig -)	Decreasing	NA	Jun-18
BW-23-390'	24	Deep Bedrock	100	100.0% (sig -)	Decreasing	NA	Jun-18
BW-27	16	Shallow Bedrock	100	100.0% (sig +)	Increasing	NA	Jun-18
BW-28	10	Shallow Bedrock	100	78.4% (+)	No Trend	Stable	Jun-18
BW-31	14	Shallow Bedrock	100	77.5% (-)	No Trend	Stable	Jun-18
BW-33	16	Shallow Bedrock	100	94.7% (-)	No Trend	Stable	Jun-18
BW-34	16	Shallow Bedrock	100	99.8% (sig -)	Decreasing	NA	Sep-18
BW-35	14	Shallow Bedrock	100	74.1% (-)	No Trend	Stable	Jun-18
BW-37	16	Shallow Bedrock	100	99.8% (sig +)	Increasing	NA	Sep-18
MW-03	16	Unconsolidated	100	100.0% (sig -)	Decreasing	NA	Jun-18
MW-04	20	Unconsolidated	30	NA	>50% ND	NA	Jun-16
MW-05	21	Unconsolidated	29	NA	>50% ND	NA	Jun-18
MW-06	7	Unconsolidated	29	NA	>50% ND	NA	Jun-16
MW-08	20	Unconsolidated	90	100.0% (sig -)	Decreasing	NA	Jun-18
PZ-01	14	Shallow Bedrock	100	99.6% (sig -)	Decreasing	NA	Dec-14
<b>MNA Monitoring Wells</b>							
BW-01	25	Shallow Bedrock	4	NA	>50% ND	NA	Jun-18
BW-02	13	Shallow Bedrock	100	57.1% (+)	No Trend	Stable	Jul-18
BW-09	22	Shallow Bedrock	23	NA	>50% ND	NA	Jun-18
BW-11	21	Shallow Bedrock	76	93.8% (-)	No Trend	Not Stable	Jun-18
BW-13	23	Shallow Bedrock	30	NA	>50% ND	NA	Jun-18
BW-14	12	Shallow Bedrock	100	100.0% (sig +)	Increasing	NA	Jul-18
BW-15	12	Shallow Bedrock	100	94.2% (-)	No Trend	Stable	Jun-18
BW-18	23	Shallow Bedrock	4	NA	>50% ND	NA	Sep-18
BW-19	21	Shallow Bedrock	29	NA	>50% ND	NA	Jun-18
BW-21	20	Intermediate Bedrock	30	NA	>50% ND	NA	Jun-18
BW-24-390'	20	Deep Bedrock	30	NA	>50% ND	NA	Jun-18
BW-25	20	Shallow Bedrock	85	99.7% (sig -)	Decreasing	NA	Jun-18
BW-26-65'	15	Intermediate Bedrock	100	72.1% (-)	No Trend	Stable	Jun-18
BW-26-85'	15	Intermediate Bedrock	100	88.0% (-)	No Trend	Stable	Jun-18
BW-26-395'	13	Deep Bedrock	100	99.3% (sig -)	Decreasing	NA	Jun-18
MW-01	22	Unconsolidated	0	NA	>50% ND	NA	Jun-18
MW-07	11	Unconsolidated	100	72.9% (-)	No Trend	Stable	Jun-18
MW-13	10	Unconsolidated	10	NA	>50% ND	NA	Jun-18

Notes:

% = percent

&gt;50% ND = greater than 50 percent nondetects.

- = decreasing

NA = not applicable

sig = significance

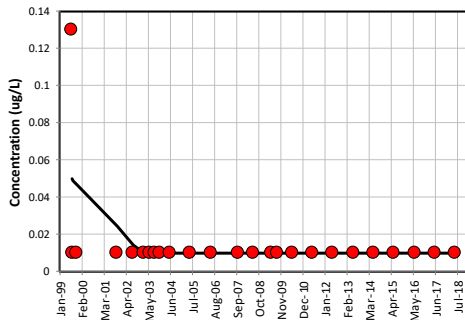
+ = increasing

Trend analysis performed using Mann-Kendall single-tailed test at 0.05 significance level.

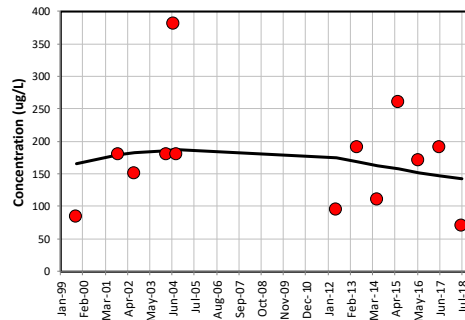
For monitoring points exhibiting no trend at the 95% confidence level, concentrations are deemed stable if the coefficient of variation (COV) is equal to or less than one. The COV is a relative measure of variation in the groundwater concentration data, and can be affected by the magnitude of the concentrations. As such, concentrations that are high can include significant variation while exhibiting a small COV. While there is no objective basis for using a particular value of COV to determine stability, values greater than 1 indicate that the data exhibit a greater detail of scatter about the mean.



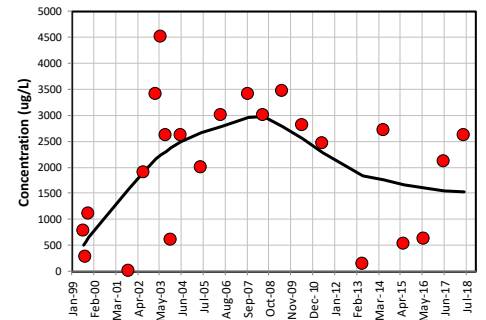
VC in BW-01



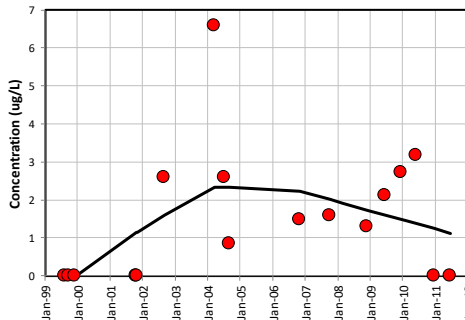
VC in BW-02



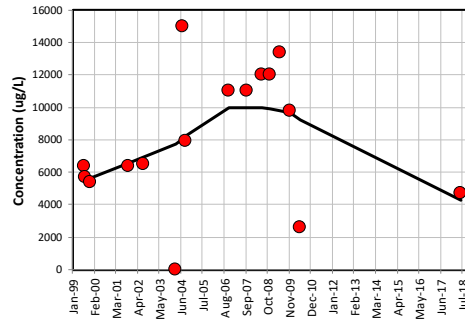
VC in BW-03/BW-03R



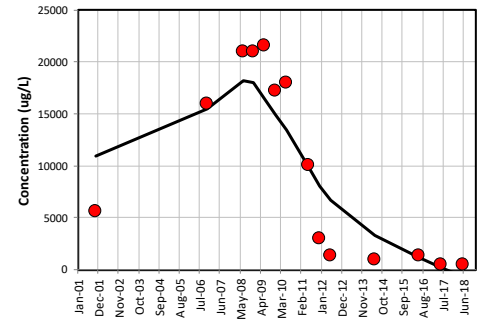
VC in BW-04



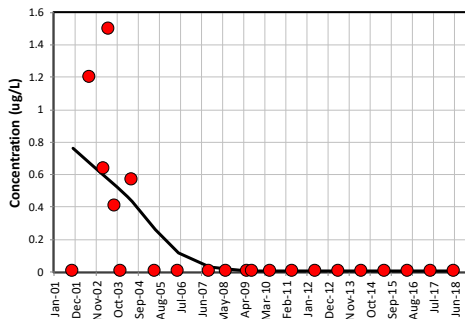
VC in BW-05



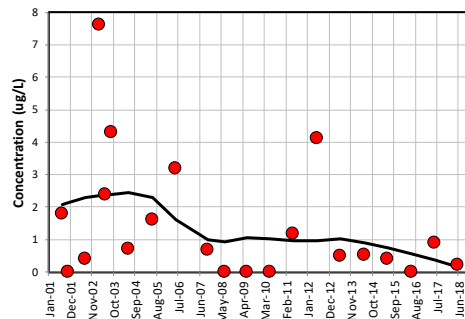
VC in BW-06



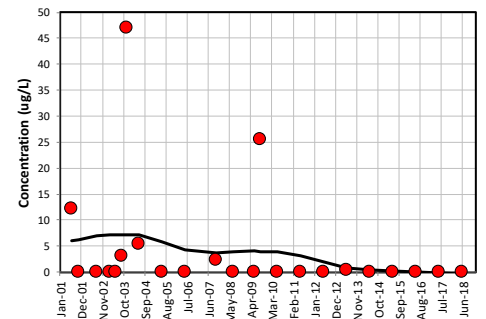
VC in BW-09



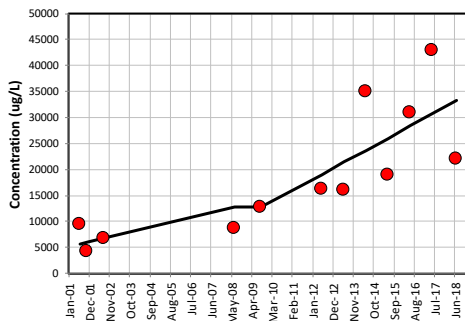
VC in BW-11



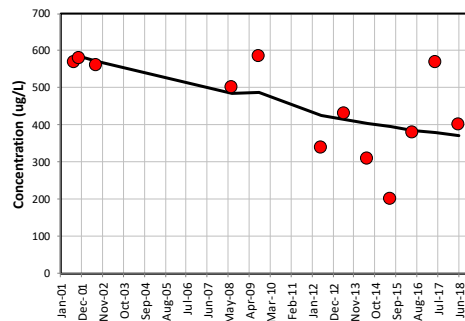
VC in BW-13



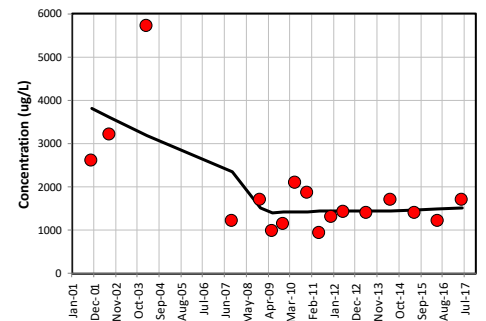
VC in BW-14



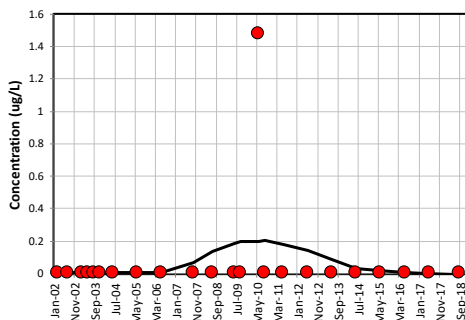
VC in BW-15



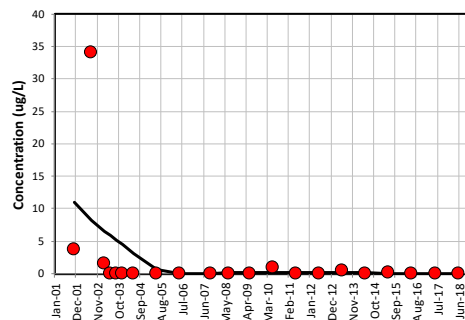
VC in BW-16



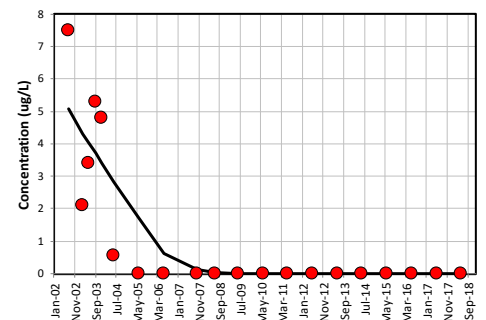
VC in BW-18



VC in BW-19

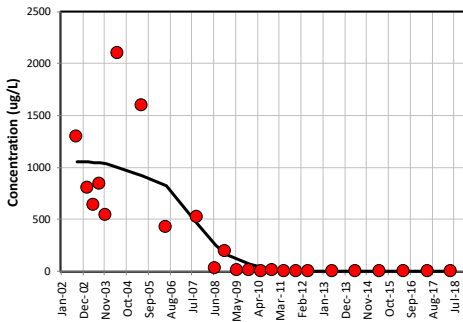


VC in BW-21

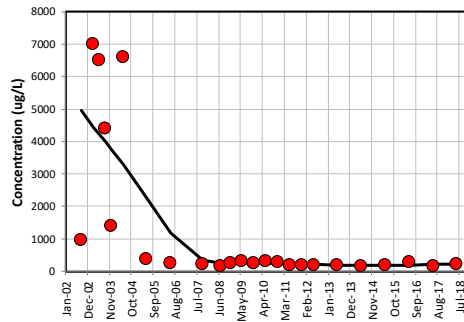




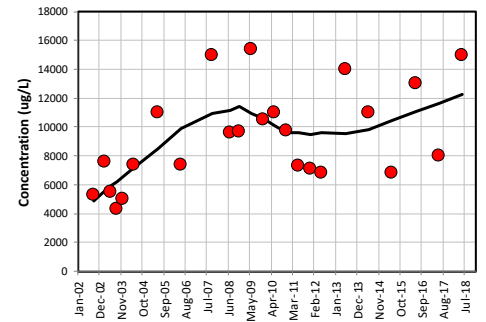
VC in BW-23-125'



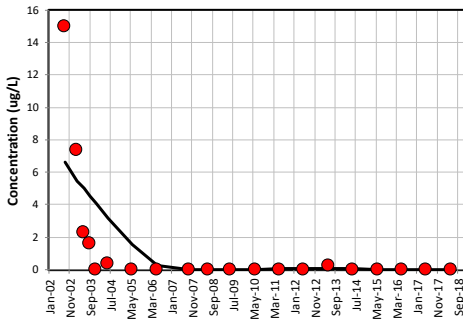
VC in BW-23-390'



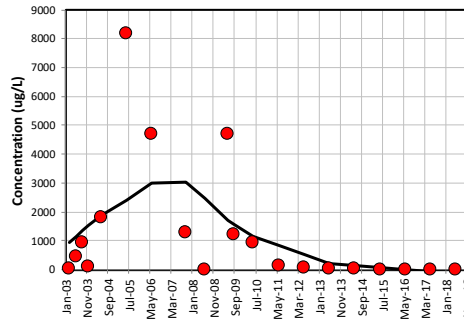
VC in BW-23-50'



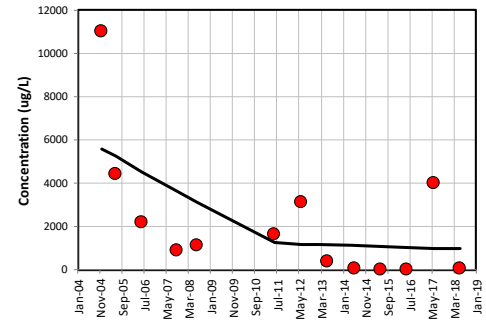
VC in BW-24-390'



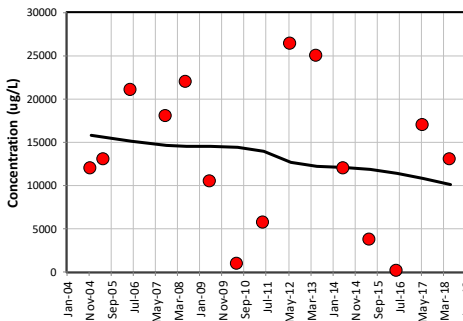
VC in BW-25



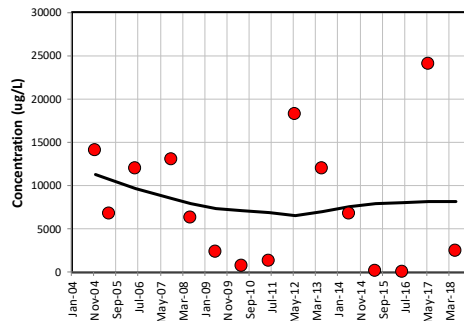
VC in BW-26-395'



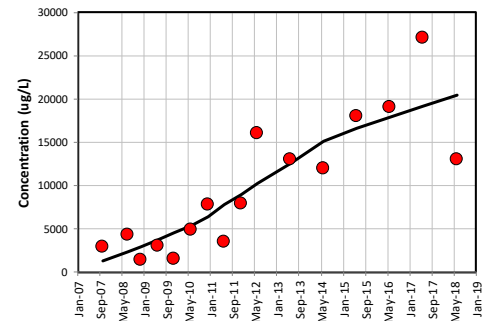
VC in BW-26-65'



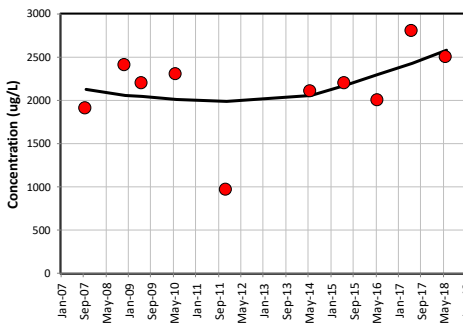
VC in BW-26-85'



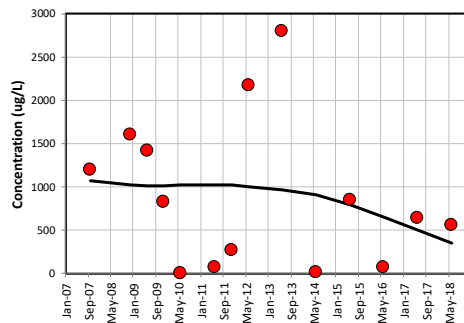
VC in BW-27



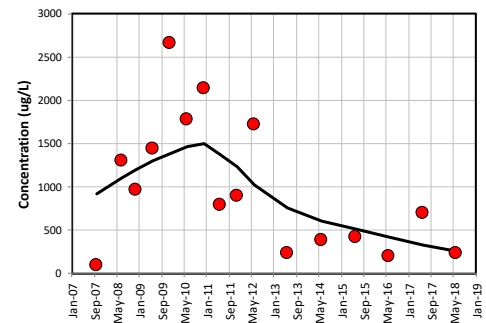
VC in BW-28



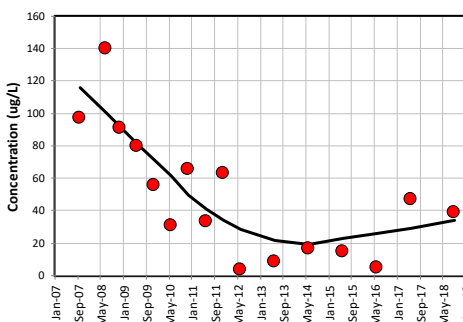
VC in BW-31



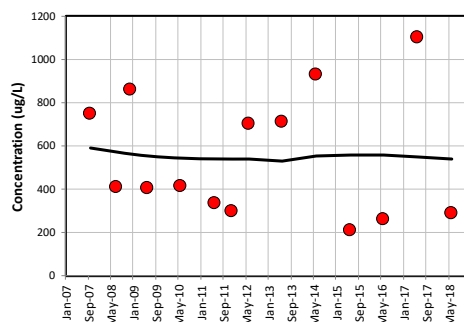
VC in BW-33



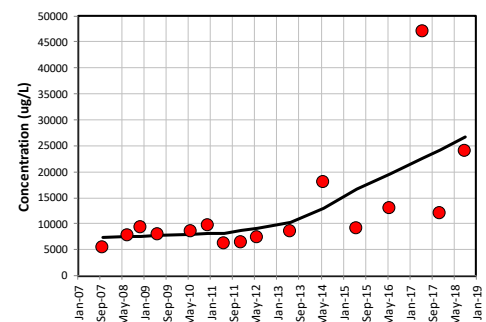
VC in BW-34



VC in BW-35

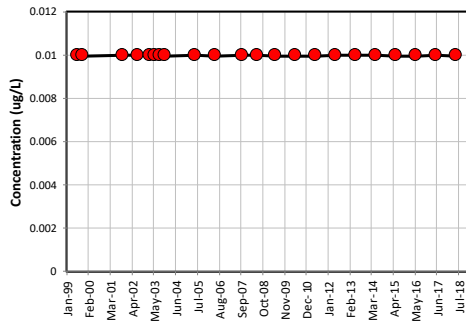


VC in BW-37

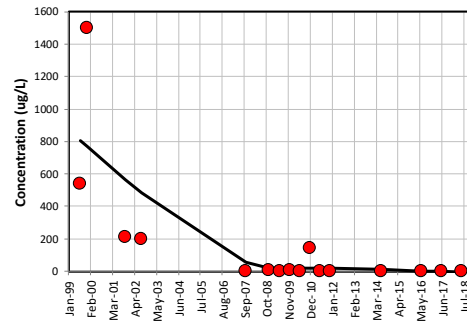




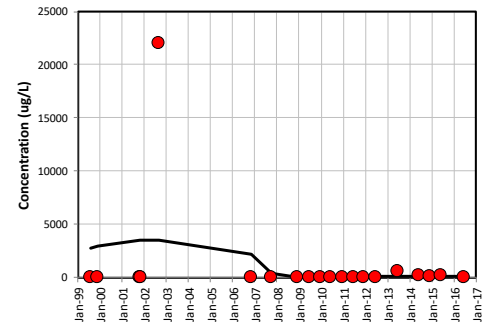
VC in MW-01



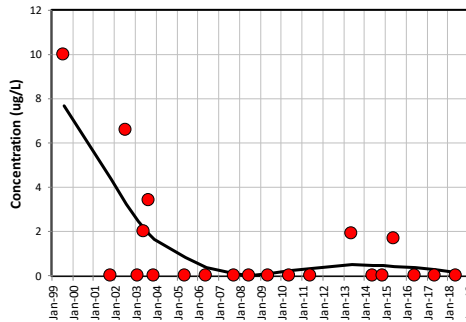
VC in MW-03



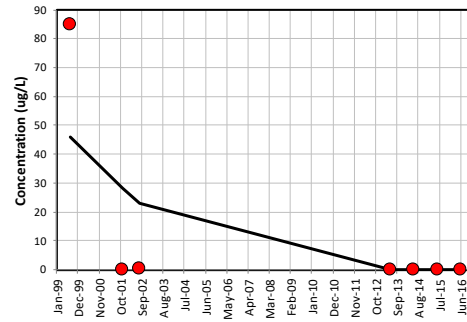
VC in MW-04



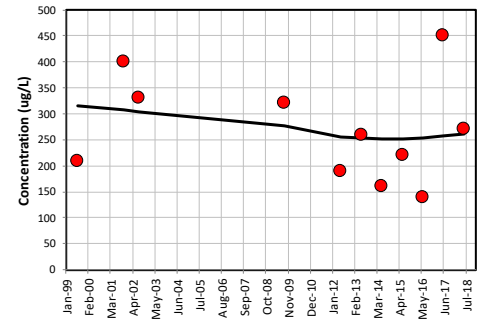
VC in MW-05



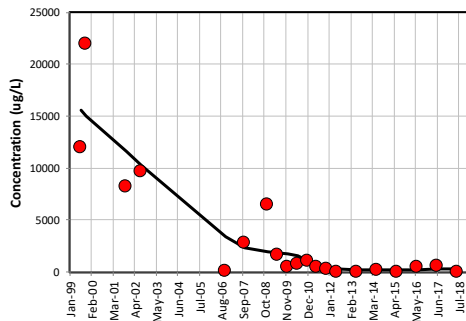
VC in MW-06



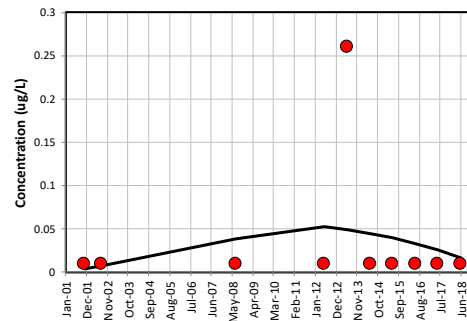
VC in MW-07



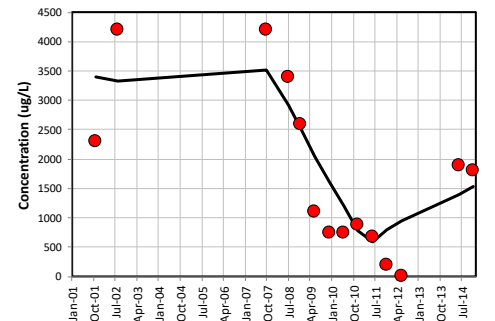
VC in MW-08



VC in MW-13



VC in PZ-01





Appendix G  
Evaluation Summary Tables (for wells  
with increasing trends for CVOC  
daughter products)



Table G-1. CVOC Daughter Products Trend Data Summary for Wells with 2018 "Increasing" Mann-Kendall Trend Analysis Results  
THAN Davenport Site, 2040 West River Drive

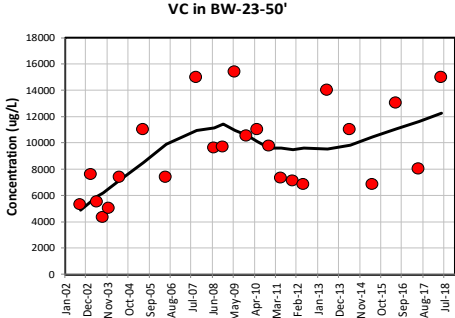
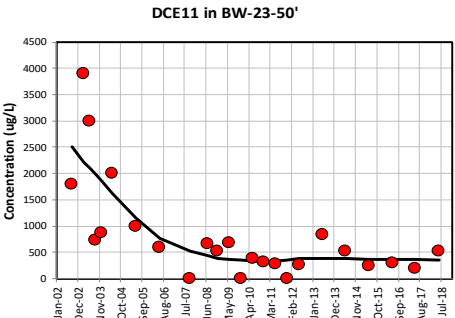
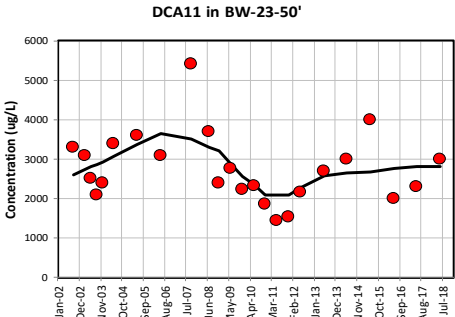
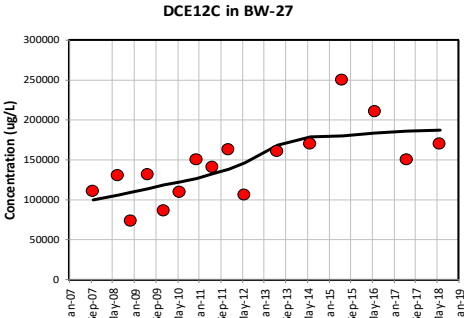
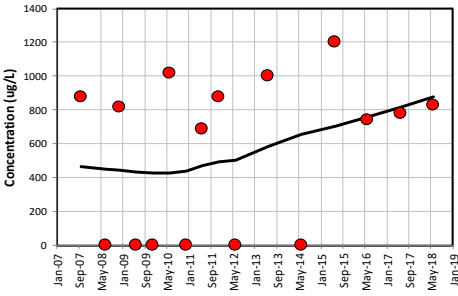
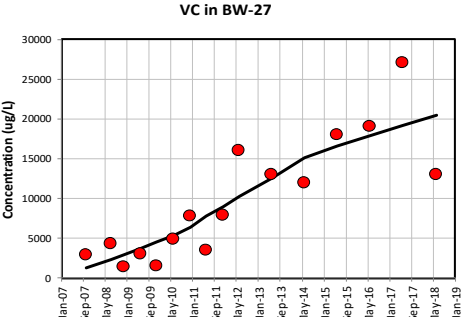
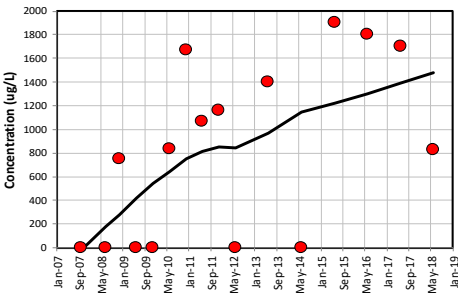
Well ID	Groundwater Monitoring Zone	Location Description <sup>a</sup>	Mann-Kendall Trend Analysis <sup>b</sup>	Trend Plot <sup>c</sup>	Discussion	Trend Plots Supporting Discussion
Onsite Monitoring Wells						
BW-23-50'	Shallow Bedrock Zone	Southern portion of the site	Increasing trend for VC		<ul style="list-style-type: none"><li>- CVOC daughter compounds continue to be produced from ongoing reductive dechlorination of CVOC parent compounds.</li><li>- Locally weighted scatter plot smoothing curve (image at left) for VC in BW-23-50' indicates increasing concentrations of VC due to reductive dechlorination.</li><li>- BW-23-50' is downgradient from the highest onsite groundwater concentrations.</li><li>-The Mann-Kendall trend analysis result for total VOCs at BW-23-50' is decreasing (Table 3-5).</li><li>- CVOC parent compounds PCE and TCE have been detected at a frequency less than 50% since monitoring began in 2002 (Appendix F).</li><li>- The Mann-Kendall trend analysis for CVOC parent compounds TCA111 and methylene chloride are decreasing (Appendix F).</li><li>-The Mann-Kendall trend analysis results for CVOC daughter compound DCE12C is decreasing (Appendix F).</li><li>-Locally weighted scatter plot smoothing curves indicate concentrations are decreasing for additional CVOC daughter compounds DCE11 and stable for DCA11 (images at right).</li></ul>	
						
BW-27	Shallow Bedrock Zone	Northern portion of the site	Increasing trend for DCE12C Increasing trend for VC		<ul style="list-style-type: none"><li>-CVOC daughter compounds continue to be produced from ongoing reductive dechlorination of CVOC parent compounds.</li><li>-Locally weighted scatter plot smoothing curves (images at left) for DCE12C and VC indicate increasing concentrations of both daughter products due to reductive dechlorination</li><li>-BW-27 is located downgradient of ISCO Injection Area 5.</li><li>-The Mann-Kendall trend analysis result for total VOCs at BW-27 is stable (Table 3-5).</li><li>-The Mann-Kendall trend analysis results for CVOC parent compounds PCE, TCE, TCA111, and methylene chloride are decreasing (Appendix F).</li><li>-Locally weighted scatter plot smoothing curves indicate concentrations are increasing for additional CVOC daughter compounds DCE11 and DCA11 (images at right).</li></ul>	
						



Table G-1. CVOC Daughter Products Trend Data Summary for Wells with 2018 "Increasing" Mann-Kendall Trend Analysis Results  
THAN Davenport Site, 2040 West River Drive

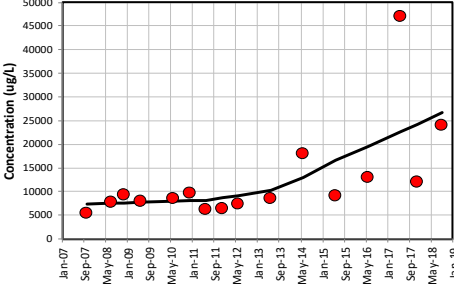
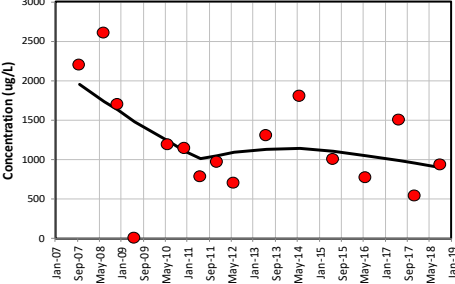
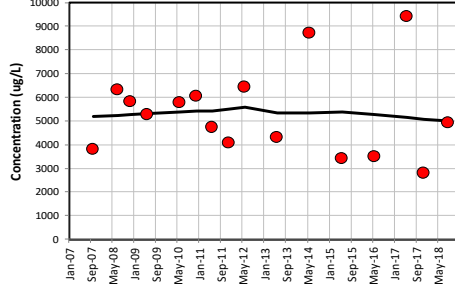
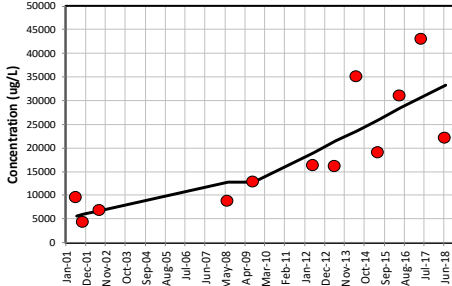
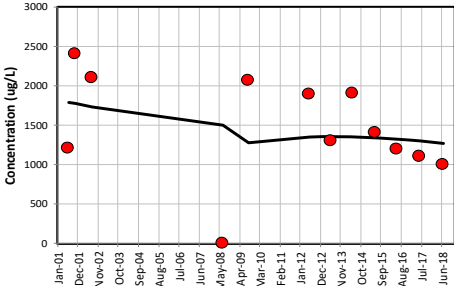
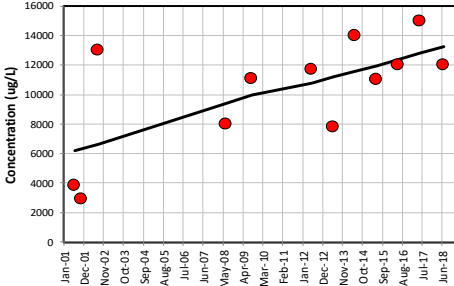
Well ID	Groundwater Monitoring Zone	Location Description <sup>a</sup>	Mann-Kendall Trend Analysis <sup>b</sup>	Trend Plot <sup>c</sup>	Discussion	Trend Plots Supporting Discussion
BW-37	Shallow Bedrock Zone	Southern portion of the site	Increasing trend for VC	<div><p><b>VC in BW-37</b></p></div>	<div><ul style="list-style-type: none"><li>- CVOC daughter compounds continue to be produced from ongoing reductive dechlorination of CVOC parent compounds.</li><li>- Locally weighted scatter plot smoothing curves (image at left) for VC indicate increasing concentrations of this daughter products due to reductive dechlorination.</li><li>- BW-37 is located downgradient of ISCO Injection Area 4.</li><li>-The Mann-Kendall trend analysis result for total VOCs at BW-37 is decreasing (Table 3-5).</li><li>-CVOC parent compound TCE has been detected at a frequency less than 50% since monitoring began in 2007 (Appendix F).</li><li>-The locally weighted scatter plot smoothing curves indicate concentrations are decreasing CVOC parent compound PCE, and increasing for methylene chloride (images in Appendix F)</li><li>-The Mann-Kendall trend analysis results for CVOC parent compounds TCA111 is decreasing (Appendix F).</li><li>-The Mann-Kendall trend analysis results for CVOC daughter compound DCE12C is decreasing (Appendix F).</li><li>-Locally weighted scatter plot smoothing curves indicate concentrations are decreasing for additional CVOC daughter compounds DCE11 and stable for DCA11 (images at right).</li></ul></div>	<div><p><b>DCE11 in BW-37</b></p></div> <div><p><b>DCA11 in BW-37</b></p></div>



Table G-1. CVOC Daughter Products Trend Data Summary for Wells with 2018 "Increasing" Mann-Kendall Trend Analysis Results  
THAN Davenport Site, 2040 West River Drive

Groundwater Monitoring		Location Description <sup>a</sup>	Mann-Kendall Trend Analysis <sup>b</sup>	Trend Plot <sup>c</sup>	Discussion	Trend Plots Supporting Discussion		
Well ID	Zone							
Offsite Monitoring Wells								
BW-14	Shallow Bedrock Zone	Located in the southeastern portion of the site on the southeastern side of West River Drive	Increasing trend for VC					
				<div>VC in BW-14</div> 	<div>VC in BW-14</div> <p>- CVOC daughter compounds continue to be produced from ongoing reductive dechlorination of CVOC parent compounds.</p> <p>- Locally weighted scatter plot smoothing curve (image at left) for VC in BW-14 indicates increasing concentrations of VC due to reductive dechlorination.</p> <p>- BW-14 is downgradient from the highest onsite groundwater concentrations.</p> <p>- The locally weighted scatter plot smoothing curve (Appendix F) indicates total VOC concentrations at BW-14 are decreasing since 2008.</p> <p>- CVOC parent compounds PCE, TCE, and methylene chloride have been detected at a frequency less than 50% since monitoring began in 2001 (Appendix F).</p> <p>-The Mann-Kendall trend analysis results for CVOC parent compound TCA111 is decreasing (Appendix F).</p> <p>- locally weighted scatter plot smoothing curves indicate concentrations are decreasing for the additional daughter products of DCE11 (image at right) and DCE12C (Appendix F) ,and increasing for daughter product DCA11 (image at right).</p>	<div>DCE11 in BW-14</div> 		
					<div>DCA11 in BW-14</div> 			

Notes:

- <sup>a</sup> Locations of site wells are presented on Figure 2-2.
- <sup>b</sup> Mann-Kendall analysis for VC and DCE12C was completed for the dataset. Tables and graphs of the results are included in Appendix F.
- <sup>c</sup> Locally weighted scatter plot with smoothing curve. The trend analysis was completed using all available data for the well, starting when it was installed.
- CVOC = chlorinated volatile organic compound
- DCE11 = 1,1-Dichloroethene
- DCA11 = 1,1-Dichloroethane
- DCA12 = 1,2-Dichloroethane
- DCE12C = cis-1,2-Dichloroethene
- DCE12T = trans-1,2-Dichloroethene
- ISCO = in situ chemical oxidation
- LTMP = long-term groundwater monitoring plan
- mg/L = milligrams per liter
- mV = millivolts
- PCE = tetrachloroethene
- TCA111= 1,1,1 trichloroethane
- TCE = trichloroethene
- VC = vinyl chloride
- VOC = volatile organic compound
- Total VOCs include 1,1,1-trichloroethane; 1,1-dichloroethane; 1,1-dichloroethene; 1,2-dichloroethane; 2-butanone; acetone; benzene; chloroethane; cis-1,2-dichloroethene; ethylbenzene; methylene chloride; styrene; tetrachloroethene; toluene; trichloroethene; trans-1,2-dichloroethene; vinyl chloride; and xylenes.